North Carolina Department of Health and Human Services

Office of the Secretary

Assessment on Long Term Care Populations

Project Report

September 2005

Myers and Stauffer LC
Certified Public Accountants

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1.0 Executive Summary

The North Carolina Long Term Care Populations Study was conducted at the request of DHHS Secretary Carmen Hooker Odom and the former Assistant Secretary, Lynda McDaniel. The Division of Medical Assistance administered the contractual process which resulted in the selection of Myers and Stauffer, LC. The Division of Medical Assistance consulted with other DHHS divisions, including the Division of Aging and Adult Services, in the overall design and implementation of the study. This report has been prepared to further inform interested parties about the needs of people who receive selected long term care services and the associated public expenditures used to serve them.

The purpose of this project is to compare acuity levels and public expenditures for clients of North Carolina long-term care populations, including nursing facilities, the Community Alternatives Program for Disabled Adults (CAP/DA) waiver, Adult Care Homes (ACH), Adult Day Care (ADC), and Adult Day Health (ADH). The Division of Medical Assistance (DMA) randomly selected a sample of ACH, ADC and ADH clients for this study. Myers and Stauffer clinicians performed clinical assessments of these clients using a common assessment tool patterned after the Minimum Data Set (MDS 2.0). The MDS 2.0 assessment instrument is utilized in the nursing facility setting. In addition to a sample of nursing facility clients, the report contains comparative information that represents the entire nursing facility population. Clients receiving ADC and ADH live at their home or with a caregiver, and receive less than 24-hour care as a means of preventing or delaying institutionalization, while clients in ACH receive 24-hour care in the ACH center.

The DMA provided the assessment data for the sample of nursing facility and CAP/DA clients. The nursing facility assessment data is based on the federally required MDS data that is submitted routinely to the state. The CAP/DA assessment data is based on client assessment data developed for this waiver population, and was limited to the assessment elements that are required to classify clients using the Resource Utilization Group, version III (RUG-III) system. The assessments were completed by interviewing clients and their caregivers, as well as a review of available medical chart information.

Based on the assessment data used for this study, we determined the activities of daily living (ADL) score and cognitive performance score (CPS) for each client in the study. The ADL score is used to measure clients' functional dependence, and is based on late loss activities of daily living including; bed mobility, transfer, toilet use and eating. The ADL score can range from four (indicating an independent client) to 18 (indicating a totally dependent client). The ADL score has been determined to be a strong predictor of staff resource need for nursing facility clients. The CPS score is used to measure clients' mental status or faculty of knowing. The CPS score is based on assessment items that reflect the client's short-term memory ability, daily decision-making ability, and their ability to make themselves understood.

In general, nursing facility clients were found to have the highest ADL scores (most dependent) with an average score of twelve (12), and ADC clients were found to have the lowest ADL scores (most independent), with an average score of five (5). Nursing facility and ADH clients sampled were generally found to have the highest CPS score (most cognitive impairment) with an average CPS score of three (3), and CAP/DA, ACH and ADC sample clients had a slightly lower average CPS score of two (2) denoting higher cognition.

Using the client assessment data, we evaluated the prevalence of psychiatric/mood diagnoses, including anxiety disorder, depression, manic depression and schizophrenia. Of the 200 ACH, ADC and ADH sample clients, 64 had one or more of these diagnoses.

The assessment data was also used to classify each client into one of seven major RUG-III groups that utilize similar quantities of staffing resources. Each of these major groups is further subdivided into multiple categories within each group. The RUG-III classification system relies on numerous assessment elements that describe a client's clinical condition, as well as the ADL and CPS scores and other factors.

The RUG-III distribution among all long-term care population groups studied is fairly evenly distributed between the seven major groups. We noted that the largest portion of clients classified in the Impaired Cognition category, indicating low to moderate care needs, yet have cognitive impairments due to short-term memory loss or poor decision-making. It is noted that 65 percent of the sample ADH clients, 45 percent of the sample ADC clients, and 36 percent of the sample ACH clients classified in the Impaired Cognition RUG-III category. This compares to the approximately 11 percent of all nursing facility clients and 18 percent of the sample CAP/DA clients.

The final section of this report contains analysis of the Medicaid expenditures for nursing facility, CAP/DA, ACH and ADH clients, and Home and Community Care Block Grant funding for ADC clients. These public expenditures are based on claims data received from DMA for SFY 2004. These claims data represent expenditures for all services provided to each sample client. The annual expenditures were determined and tabulated for each client. The average expenditure amount per client based on their RUG-III group was then determined in order to facilitate a comparison of costs for each client with similar care needs and functional levels across the different long-term care service settings. The average annual expenditure per client ranged from a high of more than $37,000 for a nursing facility client to a low of about $3,000 per ADC client.

2.0 Project Overview

This report provides DMA with medical and functional needs data to use in developing cost models to direct future methods of financing services provided to the elderly and disabled participating in home and community based programs. Comparisons were made in the acuity levels and Medicaid expenditures of a sample of clients receiving services in the following five long-term care populations in North Carolina:

1. Nursing Facility
2. Community Alternatives Program for Disabled Adults
3. Adult Care Home
4. Adult Day Care
5. Adult Day Health

The following major services were provided:

- Prepared a modified assessment instrument to assess the sample clients based on the MDS 2.0.
- Performed up to 200 assessments on a sample of clients in adult care homes and clients receiving ADC and ADH services.
- Analyzed and compared the functional needs and acuity levels of clients within all long-term care population groups.
- Classified sample clients based on clinical and functional needs.
- Acquired and tabulated total Medicaid expenditures for each sample client.

DMA requested the MDS version 2.0 (as modified) and the RUG-III classification system[1] be used as the basis for comparing client acuity levels and clinical resource needs. Once each RUG-III group was determined for each sample client, clients were compared with similar functional needs and acuity across the different settings of care. In addition, Medicaid expenditures were obtained for the majority of clients in the sample receiving long-term care services. This information is useful to evaluate the costs of medical care for clients with similar care needs, and also helps DMA ensure that limited public resources are targeted at the appropriate population groups. Table 2.1 represents the number of clients included in the study sample for each long-term care population group.

[1] The Centers for Medicare and Medicaid Services developed the RUG-III classification system. The RUG-III system is used by the federal Medicare reimbursement system for skilled nursing facility reimbursement, and is also used by numerous state Medicaid systems throughout the country for nursing facility reimbursement.

Table 2.1. Sample Clients for Each Long Term Care Population Group

Long Term Care Population Group	Number of Clients in Sample
Nursing Facility (NF)	300
CAP/DA Waiver (CAP/DA)	80
Adult Care Home (ACH)	160
Adult Day Health (ADH)	20
Adult Day Care (ADC)	20
Total Sample	**580**

2.1 Provider Information Sessions

Prior to conducting the MDS assessment process, informational sessions were conducted in three major cities in North Carolina. All potential participating providers were notified in writing and encouraged to attend. Every participating provider was presented with informational materials to ensure that all participants were well informed. Once the provider sessions were completed, MDS assessments were performed on each of the sample clients in ACH, ADC and ADH via personal interviews with clients and provider staff, clinical observations, medical record chart documentation review and data collection.

2.2 Assessment Collection Process

Adult Care Home, Adult Day Care and Adult Day Health

A sample of clients in the ACH, ADC and ADH population groups were visited and assessed in their home environment by a registered nurse skilled in the MDS assessment process. The site locations for all ACH, ADC and ADH providers that were visited to obtain the assessment data for this project are presented in maps of North Carolina in the appendix. Each client was afforded privacy during the intake process to ensure confidentiality. When a client was unable to answer assessment questions, the clinician relied on the information provided by the client's caregiver. On a few occasions, the client could not be personally interviewed due to his/her inability to communicate verbally or absence from the facility. In that case, the clinician interviewed the personal caregiver. The caregiver knew the client well and was an excellent resource in collecting the assessment data. In addition, medical chart information was reviewed to ensure completeness and accuracy of information. ACH, ADC and ADH assessments were completed during July and August 2004.

Once the MDS assessment was completed for all sample clients, a second clinician reviewed each assessment record and any questions were addressed with the assessor clinician. Finally, all MDS assessments were entered into a program. The assessments were electronically checked for consistency and validity. Following these quality assurance checks, each client assessment was classified using the RUG-III classification 34-grouper model. In addition, the ADL and CPS score were calculated for each assessment record.

Community Alternatives Program for Disabled Adults

DMA selected 80 sample clients from assessments completed by Medical Records of North Carolina (MRNC). It was determined that the analysis of assessment data for the CAP/DA clients would be limited to the RUG-III MDS data fields.

The CAP/DA assessment data was checked for quality assurance. The assessments were imported and classified using the RUG-III classification 34-grouper model. The ADL and CPS scores were calculated for analysis. Once this process was complete, the data was compiled for analysis.

Nursing Facility

In order to enhance the analysis of long term care populations in this study, MDS assessments for two groups of nursing facility clients[2] were included in the analysis. First, a random sample of 300 Medicaid nursing facility clients was selected as a sample group. Second, since a complete MDS data set was readily available, all nursing facility clients were included in the analysis. This second group (2004 All Nursing Facilities) represents the entire population of nursing facility clients as of September 30, 2004. The sample of 300 nursing facility clients was randomly selected from this same population of all clients.

The MDS assessment data for all sample groups was used to compare client needs using the RUG-III classifications, ADL and CPS scores. These measures, based on MDS assessment data, provide clinical and functional needs information that facilitate comparisons across long term care population groups. Once the sample clients were classified into comparable RUG-III groups, annualized Medicaid expenditures per client were compared across each population group.

[2] Even though an individual who resides in a nursing facility is commonly referred to as a nursing facility "resident," for simplicity and consistency with other long term care population groups addressed by this report, nursing facility residents will be referred to as "clients."

3.0 Long Term Care Client Sampling Methodology

3.1 Adult Care Home, Adult Day Care and Adult Day Health Clients

Sampling Objectives

DMA provided a sample client list incorporating the following objectives:

- To enable a valid statistical comparison of the acuity levels of the three groups.
- To minimize unnecessary time and travel costs required to perform assessments.
- To enable a valid statistical conclusion as to how (if at all) geography might affect level of acuity.

Population Attributes

Analysis included three distinct long-term care populations:

1. Adult care home clients age 60 or over receiving Medicaid funded services

The ACH program reimburses for personal care services (basic and enhanced) provided to Medicaid eligible clients in adult care homes. The ACH program includes more than 1,800 providers that care for more than 24,000 clients.

2. Adult day care clients

Adult day care provides group care and supervision in a place other than the usual place of abode on a less than 24-hour basis to adults who may be physically or mentally disabled.[3] While North Carolina Medicaid does not pay for this service, the Division of Aging provided funding for this service to approximately 1,750 recipients.

3. Adult day health clients

Adult day health services provide an organized program during the day in a community group setting to support an adult's personal independence, and promote social, physical and emotional well-being. Services must include health care services as defined in these standards and a variety of program activities designed to meet the individual needs and interests of the participants and referral to the appropriate community resources.[4] North Carolina Medicaid pays for Adult Day Health Program services under the CAP/DA waiver program.

Population Distribution

There are 108 adult day care programs located in 59 of North Carolina's 100 counties. To select the client sample, counties were classified as either A, B or C with the following definitions:

A - A county that had all three types of service.

B - A county that provided both ADC and ACH services, but not ADH.

C - All other counties not classified as either A or B.

[3] General Statute 131D-6

[4] 10A North Carolina Administrative Code 06S .0102

Additional criteria for selecting the sample was applied as follows:

- Clients at least age 60 or older.
- No more than six clients in any given center.
- Sample clients were Medicaid eligible.

3.2 Community Alternatives Program for Disabled Adults Clients

Sampling Objectives

DMA provided a sample client list based on the following objectives:

- To enable a valid statistical comparison of the acuity levels between LTC population groups.
- To minimize errors due to missing or incomplete assessment information.
- To enable a valid statistical conclusion as to how (or if) geography affects level of acuity.

Population Attributes

- CAP/DA supports older adults and physically disabled adults in their own homes in order to delay or prevent nursing home facility placement.
- Recipients must meet nursing facility level of care, but also have some possibility of being safely cared for in the community.
- The CAP/DA program, available in all 100 counties in North Carolina, is administered by the Department of Health and Human Services, Division of Medical Assistance working through 96 local CAP/DA lead agencies.

Population Distribution

In order to achieve a statistically valid sample, a random interval sampling method was used. The target sample size for the CAP/DA population was 80 clients, but a pool of 20 sample replacements was also needed. The following criteria were used for the random selection.

1. Limit the sample to only clients who meet all of the following three criteria:
    a. Must be Medicaid eligible (have an assigned Medicaid ID).
    b. Must be age 60 or older.
    c. Must have a completed assessment (i.e., no missing data which could skew the assessment).
2. Determine the sample interval required for the primary sample of 80.
3. Use the steps above to select a backup sample of 20.

In June 2004, the Medical Review of North Carolina, Inc. (MRNC), a DMA contractor, implemented an Internet-based, automated assessment tool to be used by CAP/DA lead agencies in performing CAP/DA assessments. This assessment tool included the MDS elements necessary to classify each client using the RUG-III classification, 34-grouper model. The sample of CAP/DA clients was drawn from assessments available electronically from MRNC. Once the CAP/DA sample was identified, initial and replacement assessments were identified from a pool of assessments completed by MRNC, the assessment data was imported for analysis. The analysis was designed to compare the RUG-III MDS items for all populations in this study.

3.3 Nursing Facility Clients

Two separate groups of nursing facility clients were included in the analysis. First, a random sample of 300 Medicaid nursing facility clients was selected as a sample group. Second, since a comprehensive MDS data set was readily available, all nursing facility clients were included in the analysis. This second group (2004 All Nursing Facilities) represents the entire population of nursing facility clients as of September 30, 2004. The sample of 300 nursing facility clients was randomly selected from this population of all clients.

Sampling Objectives

The MDS assessment data for both groups (2004 All Nursing Facilities and 300 Nursing Facilities Random Sample) was based on the latest MDS assessments for clients as of September 30, 2004.

Population Attributes

- Nursing facility clients who are assumed to meet nursing facility level of care.
- Include all 38,286 nursing facility clients who were residents in a nursing facility as of September 30, 2004.
- Randomly select a sample of 300 Medicaid nursing facility clients from the September 30, 2004 MDS data.

Nursing Facility Population Distribution

The state of North Carolina has 399 Medicaid certified nursing facilities.[5] All clients residing in the Medicaid certified nursing facilities were grouped together in the 2004 All Nursing Facilities category. The random 300 nursing home clients were Medicaid only recipients.

Assessment Distribution by Service Type

Table 3.1 provides a breakdown of each long-term care population group, and the number of clients in each group included in the study.

Table 3.1 Long Term Care Population Group Sample Sizes

Population Group	Number of Clients Included in the Study
2004 All Nursing Facilities	38,286
300 Nursing Facilities Random Sample	300
CAP/DA	80
Adult Care Home	160
Adult Day Care	20
Adult Day Health	20

[5] Based on the FY 05 Rates File obtained from DMA.

4.0 Assessment Data Collection Instruments

4.1 Minimum Data Set (MDS)

The MDS resident assessment instrument version 2.0 was used to collect data for this analysis. In order to be most useful, the current version of the MDS instrument was modified. These modifications included the elimination of items believed to be irrelevant to all long-term care population groups analyzed, or presented little or no value to the analysis.[6] None of the MDS questions or coding requirements was altered on the modified version of MDS 2.0 therefore maintaining the integrity of the RUG-III classification process.

4.2 Community Alternatives Program for Disabled Adults Data Set

Beginning June 2004, the CAP/DA client assessment data set was converted to an electronic format and included the elements on the MDS that were needed to perform the RUG-III classification, which allowed an analysis and comparison of the RUG-III classifications for these clients. Because the layout of the CAP/DA assessment instrument was not identical to the MDS version 2.0 instrument, a crosswalk was completed. For purposes of this analysis, the CAP/DA data was limited to the RUG-III MDS items.

After a detailed clinical review of DMA's CAP/DA client assessment instrument and a comparison to the modified MDS 2.0 assessment instrument, it was determined that all RUG-III items were substantially equivalent between assessment instruments, with the exception of MDS item E4, Behavior Symptoms. The CAP/DA assessment provided only three coding responses, and the MDS 2.0 provided four coding responses. After a thorough review, it was determined that the variation between the coding options at E4 did not materially alter the analysis.

In addition, once the CAP/DA assessment data was provided by DMA, it was noted that when licensed therapy days were reported as provided to the client, the associated therapy minutes were not reported. This missing data prohibited any classification in the Rehabilitation category for the CAP/DA assessments.

[6] An example MDS item that was eliminated from the MDS assessment instrument used for this project was Nursing Restorative (item P3). This element was eliminated because, other than a nursing facility setting, nursing restorative programs do not apply to any of the other long-term care populations analyzed.

5.0 Activities of Daily Living Analysis

5.1 Activities of Daily Living (ADL) by Population Group

The ADL score is an acuity measurement component used in the RUG-III classification system, and is determined by scoring the late loss ADLs, including bed mobility, transfer, toilet use and eating. The ADL score ranges from 4 to 18. The lowest ADL score of four represents a client that is independent and requires very little assistance; the highest ADL score of 18 represents a totally dependent client.

An important component of the RUG-III classification process is the scoring of ADLs. An ADL score is calculated for all clients regardless of the RUG-III category, and is a significant factor in determining a client's placement in each RUG-III group. Though the early loss ADLs (i.e., dressing, grooming, walking) are very important, national researchers who developed the RUG-III classification methodology have determined that the late loss ADLs, (i.e., bed mobility, transfer, toilet use and eating) were more predictive of resource need. In addition, the researchers determined that including the early loss ADLs did not significantly add to the explanation of resource variation.

Based on research conducted to develop the RUG-III methodology, the ADL score is a strong predictor of client needs and dependency. The intent of the MDS items used in computing the ADL score (i.e., G1a – bed mobility, G1b – transfers, G1i – toilet use, and G1h – eating) is "to record the client's self-performance and support provided in activities of daily living. That is, what the client actually did for him or herself and/or how much verbal or physical help was required by staff members during the observation period." The ADL section of the MDS is then divided into self-performance (what the client actually did for him/herself during the observation period) and support provided (how much support the staff provided for each ADL during the observation period).

The client's ability to perform an activity such as eating includes options such as: independence, supervision, limited assistance, extensive assistance or total dependence. The client's need for support for an activity such as eating includes options such as: no help, set up help only, one-person assist or two-persons assist. The combination of the clients' self-performance and support provided for an activity determines the amount of staff or care needs and therefore cost for services provided. Table 5.1 presents the distribution of ADL scores of the sample clients within each population group.

Table 5.1 ADL Score Distribution by Long Term Care Population Group

Activities of Daily Living Score	Percent of Sample Clients					
	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC*	ADH*
4 (most independent)	15%	16%	39%	63%	75%	55%
5	0%	NA	NA	NA	NA	NA
6	5%	3%	13%	8%	10%	15%
7	2%	4%	4%	10%	10%	20%
8	5%	4%	8%	3%	NA	NA
9	3%	3%	6%	6%	5%	NA
10	7%	6%	10%	2%	NA	NA
11	5%	4%	NA	2%	NA	NA
12	6%	8%	4%	3%	NA	NA
13	11%	9%	6%	1%	NA	5%
14	8%	8%	1%	1%	NA	NA
15	13%	13%	4%	3%	NA	5%
16	12%	11%	5%	1%	NA	NA
17	5%	7%	1%	NA	NA	NA
18 (most dependent)	4%	4%	NA	NA	NA	NA
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Average ADL Score	**12**	**12**	**8**	**6**	**5**	**6**

*** NOTE: It should be noted that with a sample size of 20 ADC and 20 ADH clients, each client represents five percent (5%) of the sample for these two population groups. NA represents no assessments.**

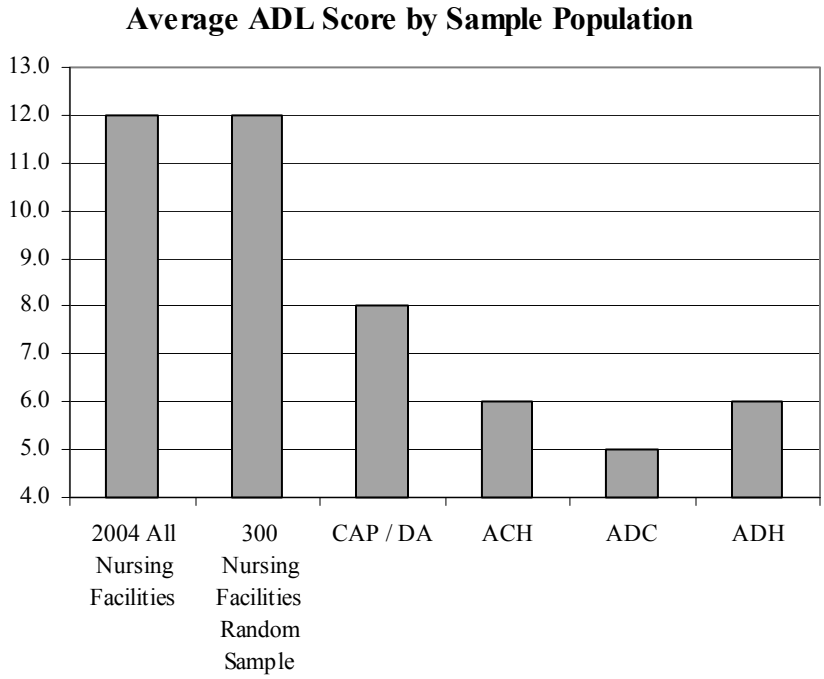
Both nursing facility population groups have virtually identical ADL score distribution. The ADL score distribution for the remaining four population groups are very similar, with the CAP/DA sample clients demanding slightly more resources. Table 5.2 presents the portion of each population group with ADL scores equal to or less than, and greater than the midpoint ADL score of 11.

Table 5.2 Percent of Sample Clients with ADL Scores Compared to Midpoint ADL Score

	Population Group					
	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
Percent of Population Group with ADL Score $\leq$ 11 (least dependent)	42%	40%	80%	91%	100%	90%
Percent of Population Group with ADL Score > 11 (most dependent)	58%	60%	20%	9%	0%	10%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

In summary, clients in both nursing facility population groups are distributed fairly evenly between independent and dependent. The CAP/DA clients are slightly more dependent than ACH, ADC and ADH clients, who are nearly all independent. In fact, with an ADL score of 4, the majority of ACH, ADC and ADH clients are completely independent.

The following bar chart displays the average ADL for each population group.



6.0 Cognitive Performance Scale Analysis

6.1 Cognitive Performance Score by Population Group

The CPS is a scale used in the RUG-III classification system to measure a client's cognitive performance, or their mental status or faculty of knowing. The CPS is derived from the MDS data elements that reflect the client's short-term memory ability, daily decision making ability and his/her ability to make him/herself understood. The CPS scale ranges from 0 to 6. A CPS of 0 represents an intact cognition level, while a CPS of 6 represents very severe impairment of cognition. Each CPS is described in Table 6.1.

Table 6.1 Cognitive Performance Score Definitions

CPS Score	Description
0	Intact cognition
1	Borderline intact cognition
2	Mild impairment of cognition
3	Moderate impairment of cognition
4	Moderate to severe impairment of cognition
5	Severe impairment of cognition
6	Very severe impairment of cognition

The Cognitive Performance Score is based on five MDS items: coma (B1), short-term memory (B2a), decision-making (B4), making self-understood (C4), and eating (GihA). The responses to these elements indicate the severity of the client's cognition levels, which impact his/her ability to perform tasks or make safe and appropriate decisions. Table 6.2 presents the distribution of the CPS of the clients within each long-term care population group.

Table 6.2 CPS Distribution by Long Term Care Population Group

Cognitive Performance Score	Percent of Sample Clients					
	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC*	ADH*
0	14%	11%	31%	30%	25%	15%
1	10%	6%	24%	18%	30%	5%
2	14%	10%	11%	5%	NA	10%
3	30%	34%	13%	31%	25%	45%
4	10%	13%	1%	6%	15%	20%
5	8%	8%	14%	9%	5%	5%
6	14%	18%	6%	1%	NA	NA
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Average CPS	**3**	**3**	**2**	**2**	**2**	**3**

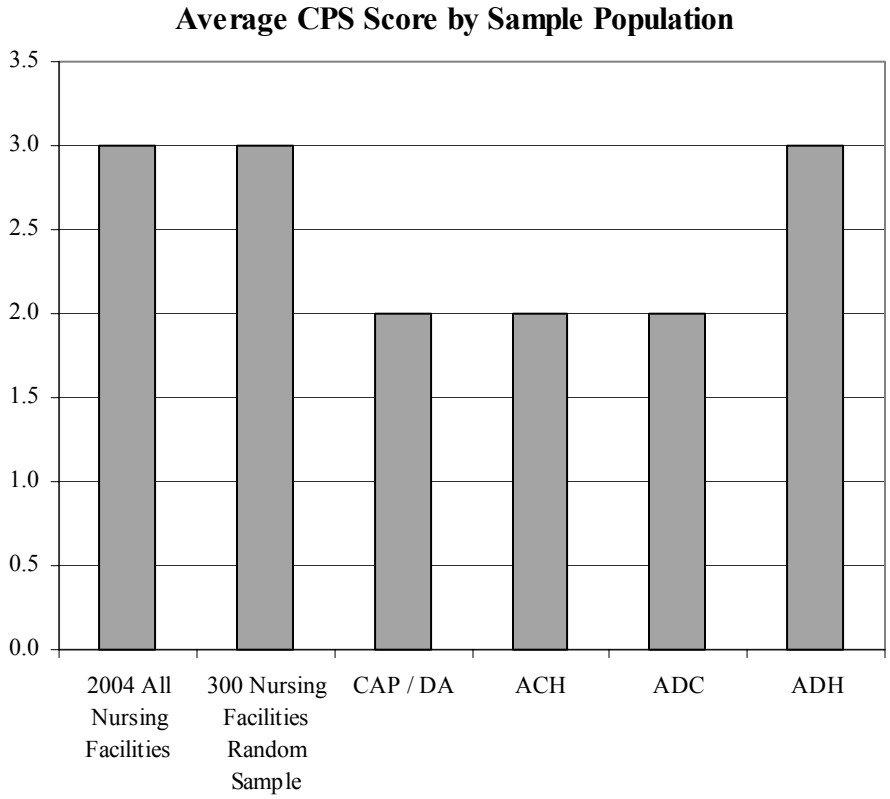
*** NOTE: It should be noted that with a sample size of 20 ADC and 20 ADH clients, each client represents five percent (5%) of the sample for these population groups. NA represents no assessments.**

Both nursing facility population groups have virtually identical CPS distribution. The CPS distribution of the remaining four population groups is very similar, with the ADH population slightly more impaired in cognition. Table 6.3 presents the portion of each population group with CPS scores equal to or less than, and greater than the midpoint CPS score of three.

Table 6.3 Percent of Sample Clients with CPS Scores Compared to Midpoint CPS Score

	Population Group					
Percent Description	**2004 All Nursing Facilities**	**300 Nursing Facilities Random Sample**	**CAP/DA**	**ACH**	**ADC**	**ADH**
Percent of Population Group with CPS Score ≤ 3	68%	61%	79%	84%	80%	75%
Percent of Population Group with CPS Score > 3	32%	39%	21%	16%	20%	25%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

In summary, clients in both nursing facility population groups are distributed fairly evenly, and the CAP/DA, ACH, ADC and the ADH sample populations are similarly distributed. A high percent of clients in all sample population groups have a CPS score of 3 or lower, thus indicating only moderate impairment or better. The following bar chart displays the average CPS for each sample population.



6.2 Description of ADL and CPS scores and client needs

Since the ADL measures the client's functionality for self-performance and support provided and the CPS measures the client's ability to understand, remember, make good decisions and communicate needs, the combined degree of functionality and cognitive impairment is believed to be a strong indicator of care needs. Regardless of the client's environment, the ADL score and CPS should be valid predictors of his/her care needs, both physical and mental. Table 6.4 presents the average ADL and CPS scores for each population group.

Table 6.4 Average ADL and CPS Score

Population Group	Average ADL Score	Average CPS Score
2004 All Nursing Facilities	12	3
300 Nursing Facilities Random Sample	12	3
CAP/DA	8	2
ACH	6	2
ADC	5	2
ADH	6	3

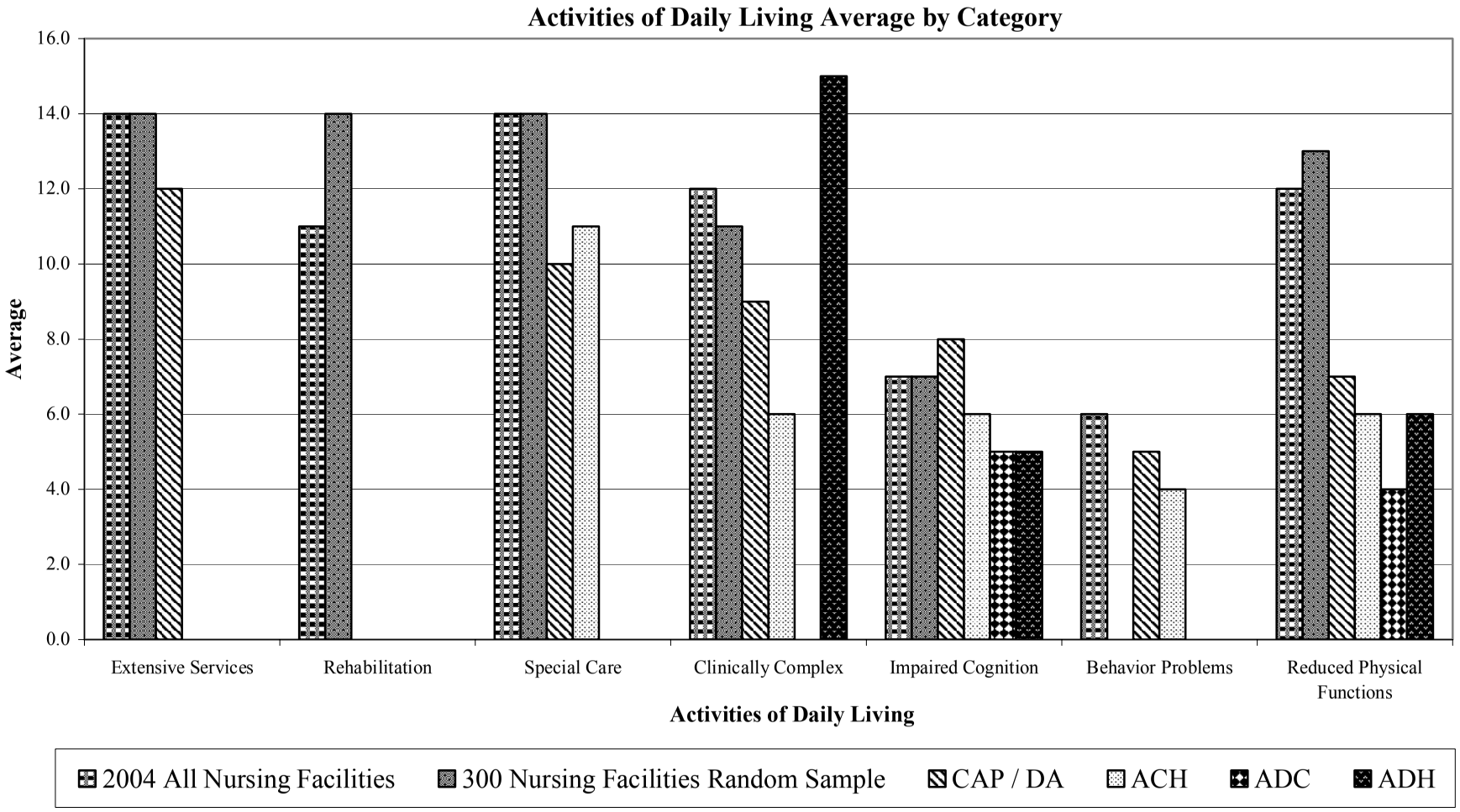
This comparison indicates that nursing facility clients, in general require more assistance with daily needs, and have moderate cognitive impairment. The CAP/DA, ACH, ADC and ADH clients generally require less assistance than nursing facility clients and have mild to moderate cognitive impairment. It should be noted that ADL and CPS scores do not evaluate the other clinical needs the client might have.

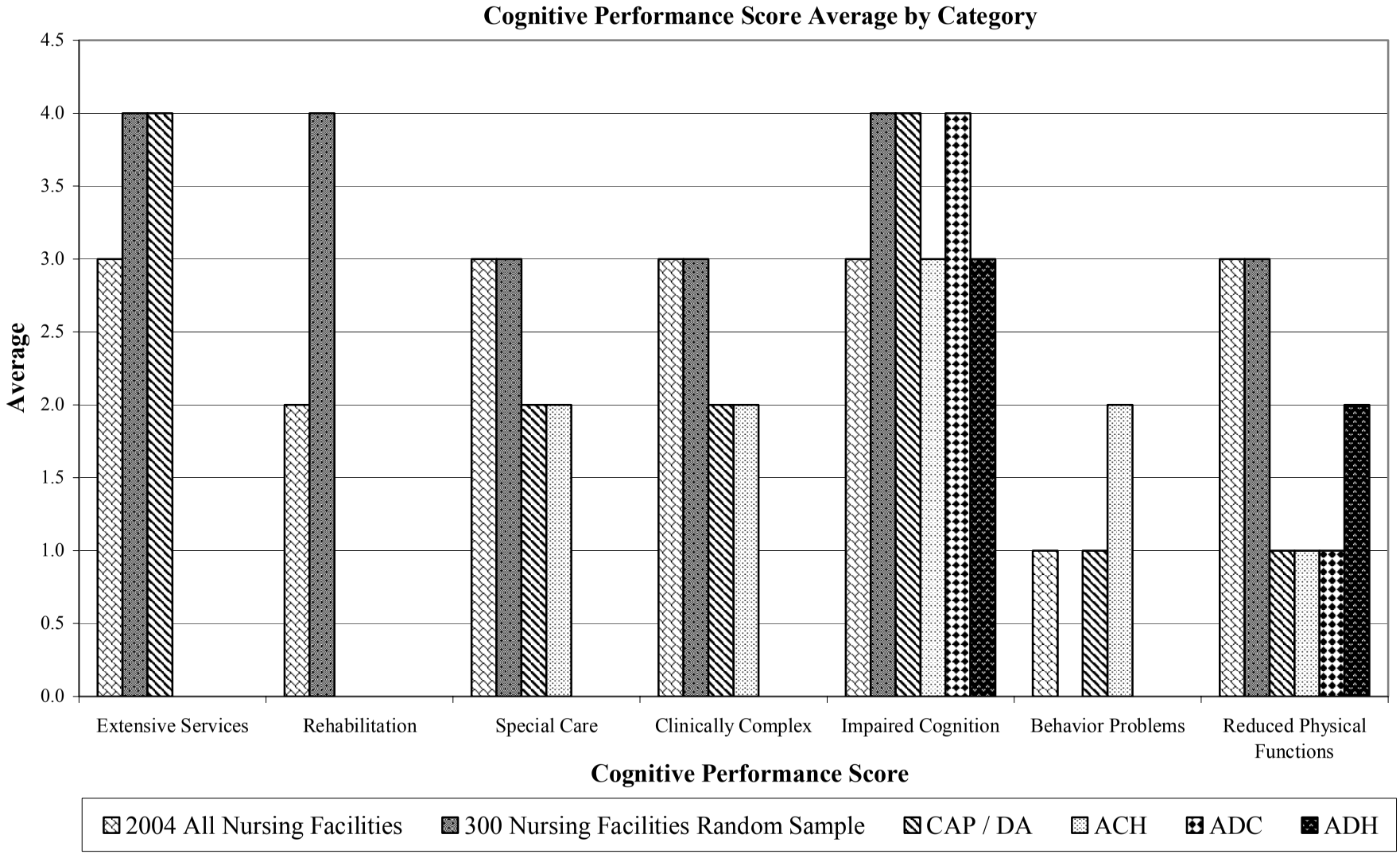
These clinical needs are evaluated in the RUG-III classification. Table 6.5 and the following bar charts present the average ADL and CPS scores, which are presented within their respective RUG-III group.

Table 6.5 Average ADL and CPS Score by RUG-III Group

RUG –III Group	ADL Score						CPS Score					
	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/ DA	ACH	ADC	ADH	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/ DA	ACH	ADC	ADH
Extensive Services	14	14	12	NA	NA	NA	3	4	4	NA	NA	NA
Rehabilitation	11	14	NA	NA	NA	NA	2	4	NA	NA	NA	NA
Special Care	14	14	10	13	NA	NA	3	3	2	2	NA	NA
Clinically Complex	12	11	9	6	NA	15	3	3	2	2	NA	0
Impaired Cognition	7	7	8	6	5	5	3	4	4	3	4	3
Behavior Problems	6	NA	5	4	NA	NA	1	NA	1	2	NA	NA
Reduced Physical Functions	12	13	7	6	5	6	3	3	1	1	1	2
Average	**12**	**12**	**8**	**6**	**5**	**6**	**3**	**3**	**2**	**2**	**2**	**3**

NA represents no assessments classifying in this category.


Activities of Daily Living Average by Category
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Average
Extensive Services
Rehabilitation
Special Care
Clinically Complex
Impaired Cognition
Behavior Problems
Reduced Physical Functions
Activities of Daily Living
2004 All Nursing Facilities
300 Nursing Facilities Random Sample
CAP / DA
ACH
ADC
ADH


Cognitive Performance Score Average by Category
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Average
Extensive Services
Rehabilitation
Special Care
Clinically Complex
Impaired Cognition
Behavior Problems
Reduced Physical Functions
Cognitive Performance Score
2004 All Nursing Facilities
300 Nursing Facilities Random Sample
CAP / DA
ACH
ADC
ADH

7.0 Analysis of MDS Psychiatric/Mood Diagnosis

The psychiatric/mood diagnoses that are contained on the MDS assessment instrument include anxiety disorder, depression, manic depression (bipolar), and schizophrenia. Table 7.1 compares the average ADL and CPS scores for all ACH, ADC and ADH sample clients, to similar statistics for those sample clients that have one or more of these four psychiatric/mood diagnoses. It was noted from the MDS assessment data that six (6) of the 57 ACH sample clients with psychiatric/mood diagnosis had more than one such diagnosis.

Table 7.1. Comparison of ADL and CPS Scores to Psychiatric/Mood Diagnosis

	All Sample Clients			Sample Clients with One or More Psychiatric/Mood Diagnosis			
	No. of Clients	**Avg. ADL Score**	**Avg. CPS Score**	**No. of Clients**	**% of Sample**	**Avg. ADL Score**	**Avg. CPS Score**
ACH	160	6	2	57	36%	5	2
ADC	20	5	2	4	20%	4	1
ADH	20	6	3	3	15%	8	4
Total/Avg.	**200**	**6**	**2**	**64**	**32%**	**6**	**2**

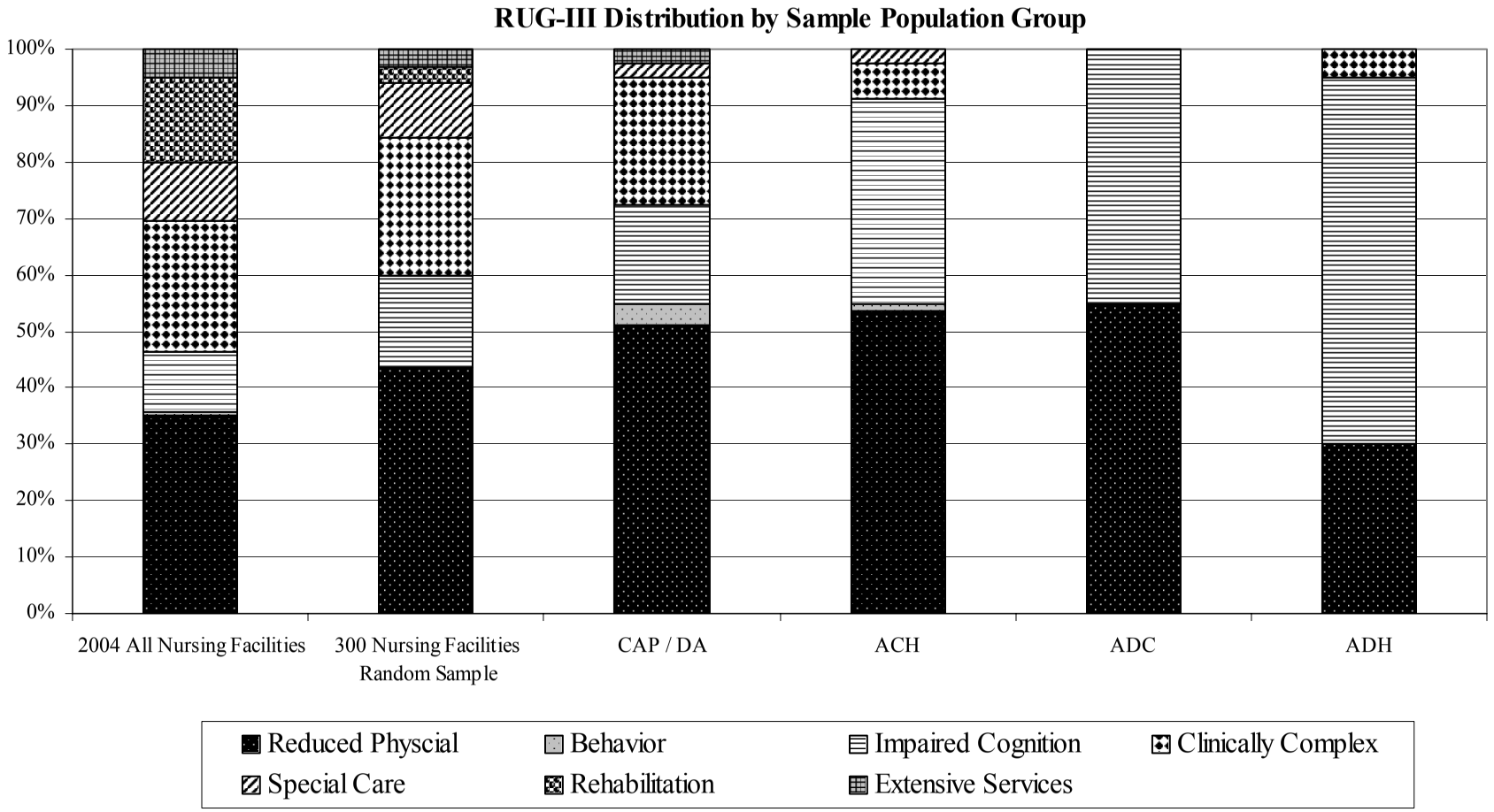
8.0 Resource Utilization Group Analysis

8.1 RUG-III Classification

The RUG-III categories were developed by national researchers to classify residents using MDS assessment data into groups that utilize similar quantities of staffing resources. One hundred eight MDS 2.0 elements are used in the RUG-III classification system to evaluate each client's clinical condition.

The RUG-III classification system has seven major groups: Extensive Services, Rehabilitation, Special Care, Clinically Complex, Impaired Cognition, Behavior Problems, and Reduced Physical Functions. These groups are further divided by the intensity of the client's activities of daily living needs. In the Extensive Services category the number of clinical services provided is evaluated to determine if the client also meets the criteria in three other categories: Special Care, Clinically Complex and Impaired Cognition.

In the Clinically Complex category, clients are differentiated by the absence or presence of depression/sad mood. For the Impaired Cognition, Behavior Problems and Reduced Physical Functions categories, when two or more nursing rehabilitation/restorative services are provided, a category split is created. The graph below illustrates the distribution of clients within each RUG-III group for all population groups.


RUG-III Distribution by Sample Population Group
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2004 All Nursing Facilities
300 Nursing Facilities Random Sample
CAP / DA
ACH
ADC
ADH
Reduced Physcial
Behavior
Impaired Cognition
Clinically Complex
Special Care
Rehabilitation
Extensive Services

8.2 Analysis of the RUG-III Distribution

RUG-III methodology of classifying clients is based on resource needs, such as licensed nursing (RN and/or LPN), licensed therapy rehabilitation (physical therapy, speech therapy and/or occupational therapy), and care provided by unlicensed caregivers (certified nursing assistants and/or nursing assistants). The RUG-III classification system can predict and measure not only care needs but also has proven a reliable tool to allocate reimbursement resources for the nursing facility populations. This model has been used since 1998 in the prospective payment system (Medicare) to reimburse nursing facilities for skilled care and is used in several states to reimburse facilities for Medicaid services.

The RUG-III distribution among all population groups is fairly evenly distributed between the seven major categories. The most interesting distribution is noted in the Impaired Cognition category. Clients in this category generally have low to moderate care needs but are impaired by short-term memory loss, poor decision making and difficulty in making self understood. Interestingly, the largest portion of cognitively impaired clients is in the sample groups: ADH (65%), ADC (45%), and ACH (36%). This compares to the other three populations where impaired cognition is CAP/DA (18%), 300 Nursing Facilities Random Sample (17%), and 2004 All Nursing Facilities (11%).

Psychiatric/Mood Diagnosis Distribution Within the RUG-III Classification

Of the 200 ACH, ADC and ADH clients, 64 had a psychiatric/mood diagnosis (one or more of the following: anxiety disorder, depression, bipolar, and or schizophrenia), which represents 32 percent of clients in these population groups. These 64 clients were classified in the Special Care, Clinically Complex, Impaired Cognition and Reduced Physical Functions categories, as presented in Table 8.1 below. The psychiatric/mood diagnosis for each ACH, ADC and ADH client in the study is presented later in this report.

Table 8.1 Sample Clients with a Psychiatric/Mood Diagnosis

RUG-III Group	Number of ACH, ADC and ADH Clients with a Psychiatric/Mood Diagnosis
Special Care	2
Clinically Complex	2
Impaired Cognition	24
Reduced Physical Functions	36
Total	**64**

8.3 RUG-III Distribution

Extensive Services RUG-III Category

Clients that are in the Extensive Services category exhibit extensive care needs with both activities of daily living and licensed nursing services. These clients require at least one of the following medical services: administration of IV fluids and or IV medication, nasopharyngeal or tracheal suctioning, tracheostomy care and/or ventilator or respirator care, and typically require significant resources.

To be classified in the Extensive Services category, the client must have an ADL score of seven or greater, indicating his/her needs range from assistance to a very dependent client. The Extensive Services category is subdivided into three subgroups – SE1, SE2 and SE3. The difference between these three subgroups is the number of medical services provided to the client (i.e., an SE3 client requires more services than an SE1 client). Extensive Services clients are very medically complex and require the most licensed professional staff resources of all the RUG-III categories.

Not only must the client have care needs requiring at least one of the medical services listed above, but a count of "extensive services" must be determined by a scoring method that evaluates the use of IV fluids and IV medications and other clinical services associated with the Special Care, Clinically Complex and the Impaired Cognition RUG-III categories.

These last three RUG-III categories contribute an extensive service count of one per category with a possible total service count of five. Table 8.2 presents the distribution of clients that classified in the Extensive Services RUG-III category for each of the population groups.

Table 8.2 Distribution of Sample Clients Classified as Extensive Services

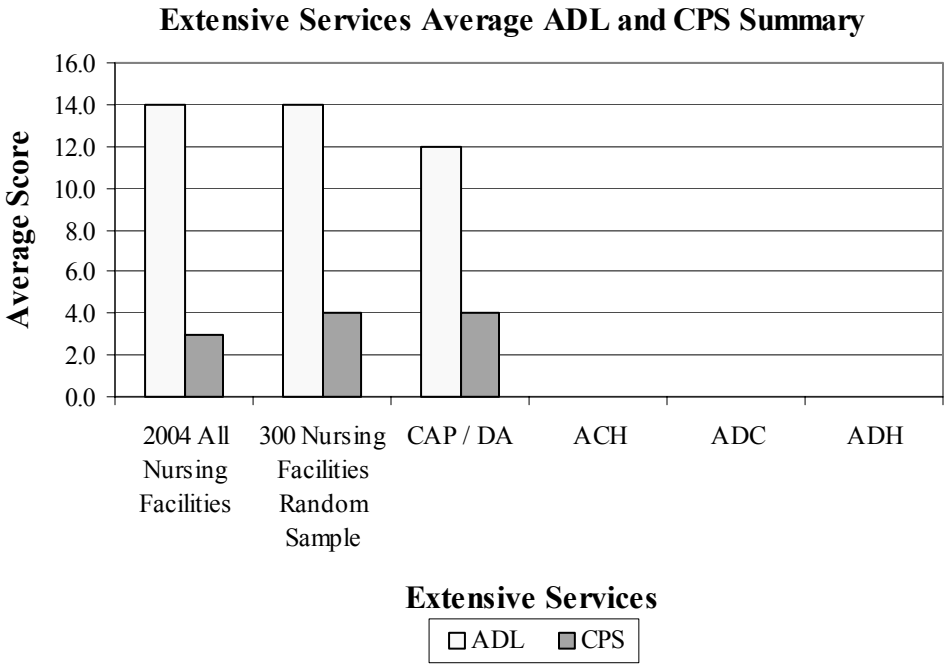
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%
SE3	532/1%	2/1%	0/0%	0/0%	0/0%	0/0%
SE2	1416/4%	6/2%	1/1%	0/0%	0/0%	0/0 %
SE1	110/0.3%	1/0%	1/1%	0/0%	0/0%	0/0%
Total	**2058/5%**	**9/3%**	**2/2%**	**0/0%**	**0/0%**	**0/0%**

ADL and CPS comparison

The average ADL and CPS score for clients that classified in the Extensive Services RUG-III category are summarized in Table 8.3 and the graph below.

Table 8.3 Average ADL and CPS Score for Sample Clients Classified as Extensive Services

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	14	14	12	NA	NA	NA
CPS	3	4	4	NA	NA	NA



Rehabilitation RUG-III Category

Clients that classify in the Rehabilitation category receive licensed therapy from one or more disciplines, including physical therapy, speech therapy, and occupational therapy and in some cases nursing restorative programming. Such clients could have an ADL score ranging from 4 (totally independent) to 18 (totally dependent). As mentioned previously, in a nursing facility setting, where a limited amount of licensed therapy is provided, nursing restorative programs may also be provided. The Rehabilitation RUG-III group is subdivided into four categories – RAD, RAC, RAB, and RAA. The differences between these categories are the ADL score as noted in Table 8.5.

Table 8.5 ADL Score Range for Rehabilitation Classification Categories

ADL Score	Rehabilitation RUG-III Classification Categories
17-18 (totally dependent)	RAD
14-16	RAC
10-13	RAB
4-9 (more independent)	RAA

Table 8.6 presents the frequency distribution of clients that classified in the Rehabilitation RUG-III category for each of the population groups. There were no clients in the CAP/DA, ACH, ADC, or ADH sample groups that classified in the Rehabilitation category. A higher average percent is noted for the 2004 All Nursing Facilities population, as compared to the 300 Nursing Facilities Random Sample group, since the 2004 All Nursing Facilities group includes Medicare clients, who typically receive skilled therapy services.

Table 8.6 Distribution of Sample Clients Classified as Rehabilitation

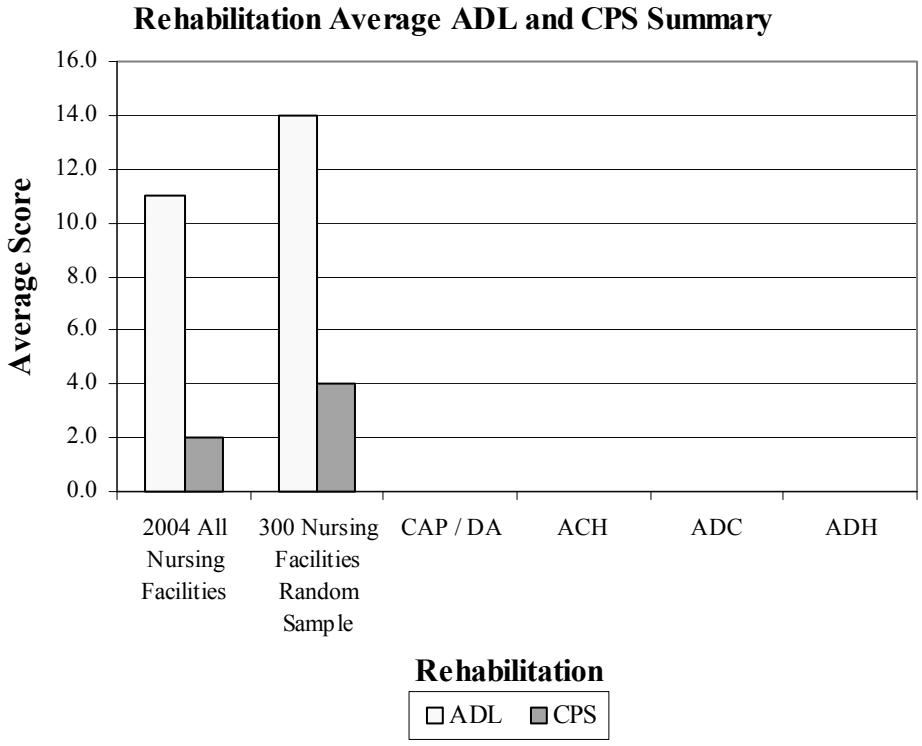
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%
RAD	365/1%	3/1%	0/0%	0/0%	0/0%	0/0%
RAC	1662/4%	4/1%	0/0%	0/0%	0/0%	0/0%
RAB	2361/6%	1/0%	0/0%	0/0%	0/0%	0/0%
RAA	1559/4%	1/0%	0/0%	0/0%	0/0%	0/0%
Total	**5947/16%**	**9/2%**	**0/0%**	**0/0%**	**0/0%**	**0/0%**

ADL and CPS Comparison

Even though the Rehabilitation category includes the full range of ADL scores, it is interesting to compare the cognition level with the average ADL score in each of the sample populations. The average ADL and CPS score for clients in this study that classified in the Rehabilitation RUG-III category are summarized in Table 8.7, and in the graph below.

Table 8.7 Average ADL and CPS Score for Sample Clients Classified as Rehabilitation

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	11	14	NA	NA	NA	NA
CPS	2	4	NA	NA	NA	NA



Special Care RUG-III Category

Clients that classify in the Special Care RUG-III category have extensive medically complex care needs with their activities of daily living. These clients have a debilitating diagnosis and/or condition of one or more of the following: cerebral palsy, multiple sclerosis, quadriplegia, fever with associated conditions, feeding tube with aphasia, skin ulcers and conditions, radiation treatment, or respiratory services, which require licensed nursing staff interventions. These clients are very medically complex and require more licensed RN/LPN professional staff resources proportionally than non-licensed staff. The Special Care RUG-III group is subdivided into 3 categories – SSC, SSB, and SSA. The differences between these categories are the ADL score as noted in Table 8.8.

Table 8.8 ADL Score Range for Special Care Classification Category

ADL Score	Special Care Classification
17-18 (totally dependent)	SSC
15-16	SSB
7-14 (more independent)	SSA

Table 8.9 presents the distribution of clients that classified in the Special Care RUG-III group. A client must have an ADL score of 7 or greater in order to be classified in the Special Care category, which indicates that the client has care needs ranging from assistance to very dependent. There were no ADC and ADH clients in the study that classified in the Special Care category. Ten percent of the 2004 All Nursing Facilities clients, 9 percent of the 300 Nursing Facilities Random Sample, and 2 percent of the CAP/DA and ACH sample clients classified in the Special Care category.

Table 8.9 Distribution of Sample Clients Classified as Special Care

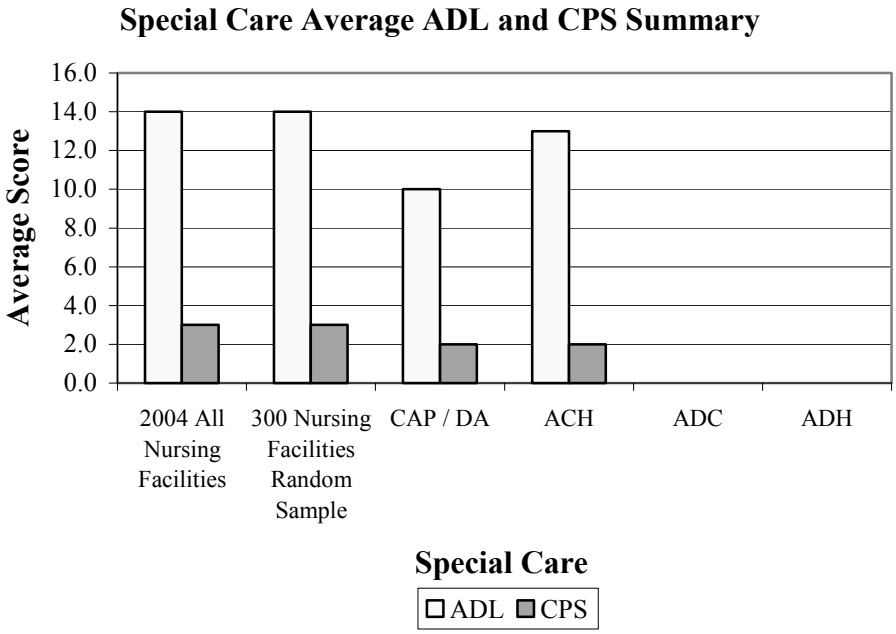
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%
SSC	702/2%	7/2%	0/0%	0/0%	0/0%	0/0%
SSB	1502/4%	9/3%	1/1%	2/1%	0/0%	0/0%
SSA	1710/4%	13/4%	1/1%	2/1%	0/0%	0/0%
Total	**3914/10%**	**29/9%**	**2/2%**	**4/2%**	**0/0%**	**0/0%**

ADL and CPS comparison

Even though the Special Care category includes an ADL score from 7 to 18, it is interesting to compare the cognition level with the average ADL score in each of the sample populations. The average ADL and CPS score for clients that classified in the Special Care category RUG-III are summarized in Table 8.10, and in the graph below.

Table 8.10 Average ADL and CPS Score for Sample Clients Classified as Special Care

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	14	14	10	13	NA	NA
CPS	3	3	2	2	NA	NA



Clients with a Psychiatric/Mood Diagnosis

Of the 200 clients studied in the ACH, ADC and ADH groups, there were two clients that classified in the Special Care category that had a psychiatric/mood diagnosis. Both of these clients were clients of an adult care home. One client was diagnosed with depression; the other client was diagnosed with depression and schizophrenia.

Clinically Complex RUG-III Category

Clients that classify in the Clinically Complex RUG-III category have care needs with activities of daily living that range from very little to total dependence for all needs. A typical Clinically Complex client has one or more medically complex conditions such as coma, diabetes, hemiplegia, pneumonia, septicemia, dehydration, internal bleeding, feeding tube, burns, infection and/or open lesions of the feet, chemotherapy, dialysis, oxygen therapy, transfusions, and/or a combination of physician visits and orders.

In addition, clients that classify as Clinically Complex are evaluated for sad mood indicators, such as verbal expressions of distress, sleep-cycle issues, or a sad, apathetic, or anxious appearance, etc. These clients are medically complex and require considerable licensed professional RN or LPN staff resources, as well as nurse aide staff time. The Clinically Complex RUG-III group is subdivided into 6 categories – CC2, CC1, CB2, CB1, CA2, and CA1. The differences between these categories are the ADL score, and whether the client has 3 or more indicators of sad mood, as presented in Table 8.11.

Table 8.11 ADL Score/Sad Mood Indicators for Clinically Complex Classification Categories

3 or More Sad Mood Indicators	ADL Score	Clinically Complex Classification
Yes	17-18 (total dependent)	CC2
No	17-18	CC1
Yes	12-16	CB2
No	12-16	CB1
Yes	4-11	CA2
No	4-11 (more independent)	CA1

Table 8.12 presents the distribution of clients in the study that classified in the Clinically Complex RUG-III group. ACH and ADH share similar percents and there were no Clinically Complex assessments for the ADC sample population.

Table 8.12 Distribution of Sample Clients Classified as Clinically Complex

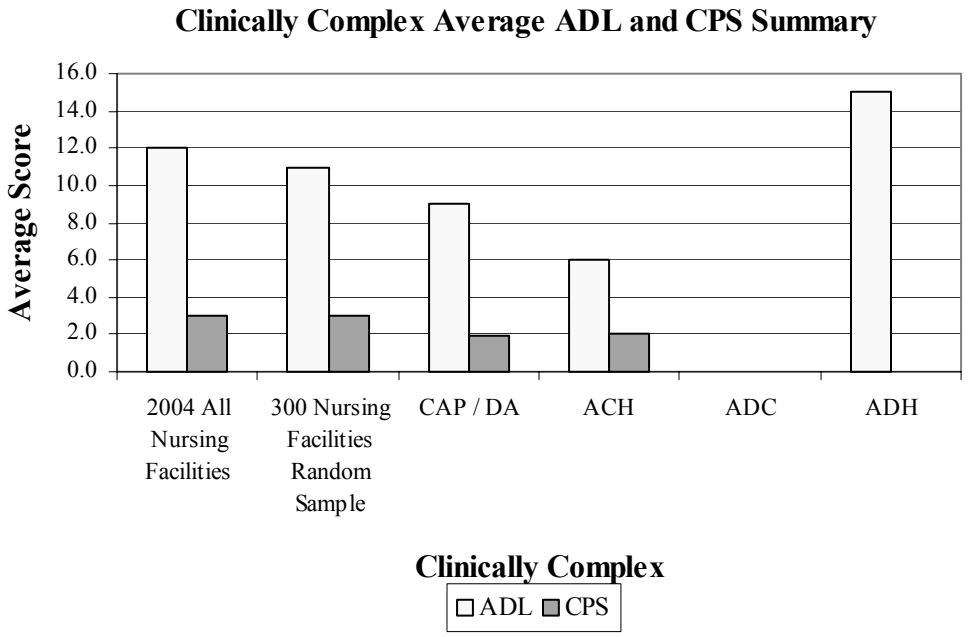
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%
CC 1 or 2	906/2%	3/1%	1/1%	0/0%	0/0%	0/0%
CB 1 or 2	4868/13%	42/14%	7/9%	1/1%	0/0%	1/5%
CA 1 or 2	3022/8%	28/9%	10/13%	9/6%	0/0%	0/0%
Total	**8796/23%**	**73/24%**	**18/23%**	**10/7%**	**0/0%**	**1/5%**

ADL and CPS comparison

Even though the Clinically Complex category includes an ADL score from 4 to 18, it is interesting to compare the cognition level with the average ADL score in each of the sample populations. The average ADL and CPS score for clients in this study that classified in the Clinically Complex RUG-III category are summarized in Table 8.13, and in the graph below.

Table 8.13 Average ADL and CPS Score for Sample Clients Classified as Clinically Complex

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	12	11	9	6	NA	15
CPS	3	3	2	2	NA	0



Clients with a Psychiatric/Mood Diagnosis

Of the 200 clients studied in the ACH, ADC and ADH sample groups; there were two clients that classified in the Clinically Complex category that had a psychiatric/mood diagnosis. Both of the clients were residents of adult care homes. One client was diagnosed with depression, and the other client was diagnosed with schizophrenia.

Impaired Cognition RUG-III Category

Clients that classify in the Impaired Cognition RUG-III category have care needs with activities of daily living that range from low to moderate, with an ADL score limited to a range of 4 to 10. Clients that meet the criteria for this category but have an ADL score greater than 10 (11-18) would classify in the Reduced Physical Functions category instead of Impaired Cognition.

A typical Impaired Cognition client has challenges with his/her short-term memory, making compromised or poor decisions and difficulty making him/herself understood. In addition, to these cognitive impairments, a client in this category may be participating in, or is evaluated for, nursing restorative programs.

Nursing restorative programs are generally applicable only to the nursing facility environment, and are not applied in the CAP/DA, ACH, ADC or ADH environments. For nursing facility clients, restorative nursing programs are client-specific programs delivered by nursing personnel to maintain or improve functionality. Programs such as dressing, grooming, walking, eating and swallowing could be included. The Impaired Cognition RUG-III category is subdivided into 4 subgroups – IB2, IB1, IA2, and IA1. The differences between these subgroups are the ADL scores and the number of nursing restorative services provided to the client, as presented in Table 8.14.

Table 8.14 ADL Score/Nursing Restorative Services Range for Impaired Cognition Classification Categories

Nursing Restorative Services	ADL Score	Impaired Cognition Classification
2 or more services	6-10	IB2
0 or 1 service	6-10	IB1
2 or more services	4-5	IA2
0 or 1 service	4-5	IA1

Table 8.15 presents the distribution of clients in the study that classified in the Impaired Cognition RUG-III group. The table indicates a fairly even distribution of Impaired Cognition clients among the 2004 All Nursing Facilities, 300 Nursing Facilities Random Sample, and CAP/DA population groups. The table also indicates that 36 percent of the ACH clients, 45 percent of ADC clients, and 65 percent of the ADH clients classified in the Impaired Cognition category.

Table 8.15 Distribution of Sample Clients Classified as Impaired Cognition

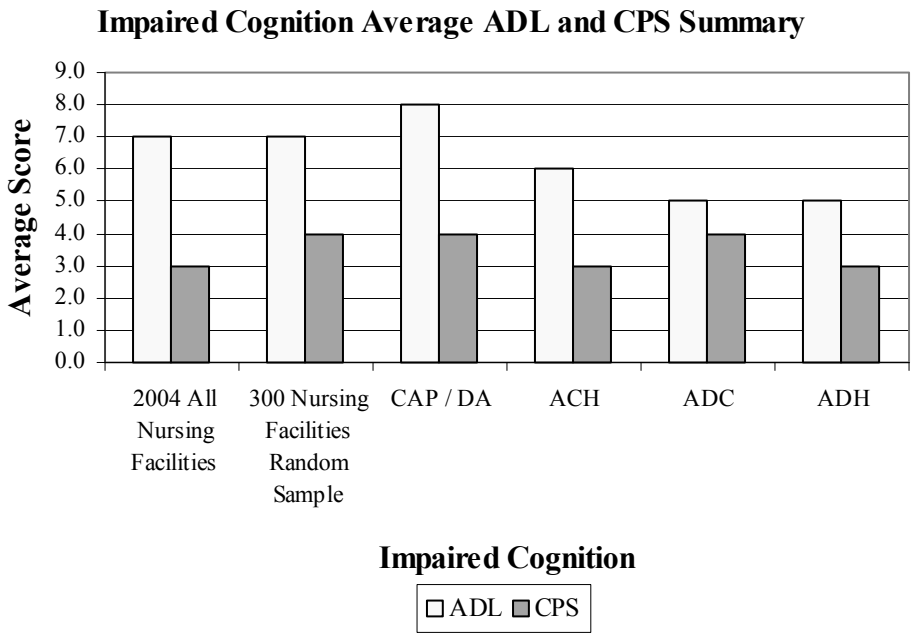
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%	No. Clients/%
IB 1 or 2	2676/7%	32/11%	10/13%	31/19%	3/15%	6/30%
IA 1 or 2	1383/4%	17/6%	4/5%	27/17%	6/30%	7/35%
Total	**4059/11%**	**49/17%**	**14/18%**	**58/36%**	**9/45%**	**13/65%**

ADL and CPS comparison

Even though the Impaired Cognition category includes an ADL score from 4 to10, it is interesting to compare the cognition level with the average ADL score in each of the sample populations. The average ADL and CPS score for clients who classified in the Impaired Cognition RUG-III category are summarized in Table 8.16, and in the graph below.

Table 8.16. Average ADL and CPS Score for Sample Clients Classified as Impaired Cognition

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	7	7	8	6	5	5
CPS	3	4	4	3	4	3



Clients with a Psychiatric/Mood Diagnosis

Of the 200 clients studied in the ACH, ADC and ADH sample groups, there were 24 clients who classified in the Impaired Cognition category that had a psychiatric/mood diagnosis. Twenty-one clients were residents of adult care homes, one client was receiving adult day care services, and two clients were receiving adult day health services. Table 8.17 presents the distribution of clients with a psychiatric/mood diagnosis.

Table 8.17 Impaired Cognition Sample Clients with Psychiatric/Mood Diagnosis

	Number of Clients – Impaired Cognition		
Psychiatric/Mood Diagnosis	**Adult Care Home**	**Adult Day Care**	**Adult Day Health**
Anxiety Disorder	1	0	1
Anxiety Disorder and Depression	2	0	0
Depression	3	0	1
Schizophrenia	11	1	0
Manic Depression (Bipolar)	4	0	0
Total	**21**	**1**	**2**

Behavior Problems RUG-III Category

Clients that classify in the Behavior Problems RUG-III category have care needs with activities of daily living that range from low to moderate, with an ADL score limited to a range of 4 to 10. Clients with behavior problems with an ADL score greater than 10 (11-18) classify in the Reduced Physical Functions category.

A typical Behavior Problem client demonstrates at least one aggressive behavior, such as verbally abusive behavior, physically abusive behavior, socially inappropriate behavior, resists care, delusions or hallucinations. In addition to these behavior problems, a client in this category may be participating in, or is evaluated for, nursing restorative programs.

Nursing restorative programs are generally applicable only to the nursing facility environment, and are not applied in the CAP/DA, ACH, ADC or ADH environments. For nursing facility clients, restorative nursing programs are client specific programs delivered by nursing personnel to maintain or improve a client's functionality. These might include such programs as dressing, grooming, walking, eating or swallowing. The Behavior Problems RUG-III category is subdivided into 4 subgroups – BB2, BB1, BA2, and BA1. The differences between these subgroups are the ADL scores, and the number of nursing restorative services provided to the client, as presented in Table 8.18.

Table 8.18 ADL Score/Nursing Restorative Services for Sample Clients Classified as Behavior Problems

Nursing Restorative Services	ADL Score	Behavior Problems Classification
2 or more services	6-10	BB2
0 or 1 service	6-10	BB1
2 or more services	4-5	BA2
0 or 1 service	4-5	BA1

Table 8.19 presents the distribution of clients in the study that classified in the Behavior Problems RUG-III category. Not surprisingly, there were a very small number of clients that classified in this category, only 4 percent of the CAP/DA clients classified in this category. This small number of clients is not unusual since most clients exhibiting behavior problems also have other clinical needs that take precedence over their behavior problems in the RUG-III classification system, and they therefore classify into a different RUG-III category.

Table 8.19 Distribution of Sample Clients Classified as Behavior Problems

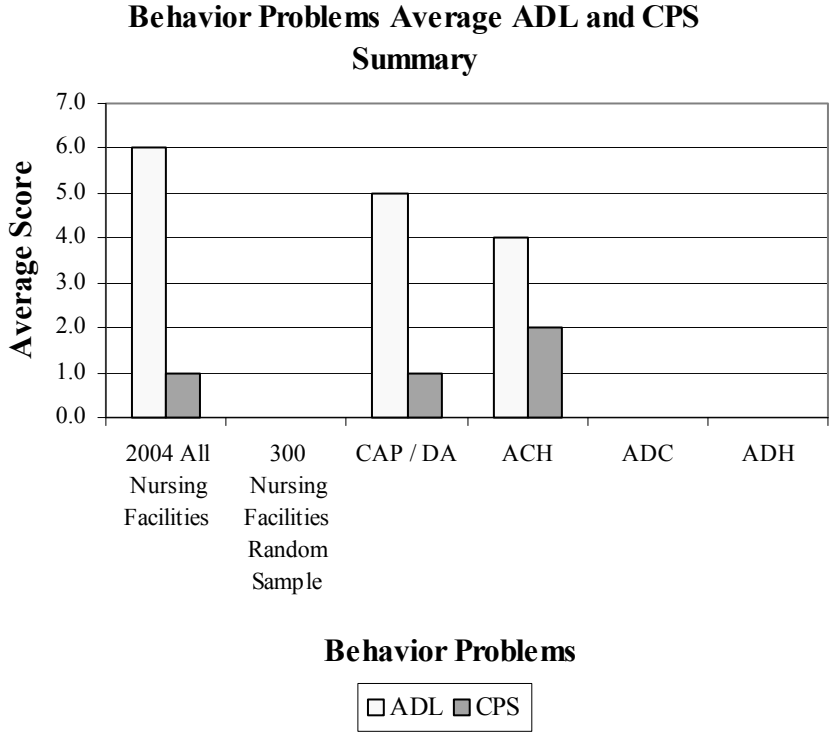
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %
BB 1 or 2	99/0%	0/0%	2/3%	0/0%	0/0%	0/0%
BA 1or 2	147/0%	0/0%	1/1%	2/1%	0/0%	0/0%
Total	**246/1%**	**0/0%**	**3/4%**	**2/1%**	**0/0%**	**0/0%**

ADL and CPS comparison

Even though the Behavior Problems category includes an ADL score from 4 to10, it is interesting to compare the cognition level with the average ADL score in each of the sample populations. The average ADL and CPS score for clients in the study that classified in the Behavior Problems RUG-III category are summarized in Table 8.20, and in the graph below.

Table 8.20 Average ADL and CPS Score for Sample Clients Classified as Behavior Problems

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	6	NA	5	4	NA	NA
CPS	1	NA	1	2	NA	NA



Reduced Physical Functions RUG-III Category

Clients that classify in the Reduced Physical Functions category have care needs with activities of daily living that range from low needs to total care for all needs, with an ADL score range from 4 to 18. In addition, clients in this category may be participating in, or are evaluated for, nursing restorative programs.

Nursing restorative programs are generally applicable only to the nursing facility environment, and are not applied in the CAP/DA, ACH, ADC or ADH environments. For nursing facility clients, restorative nursing programs are client specific programs delivered by nursing personnel to maintain or improve a client's functionality. These might include such programs as dressing, grooming, walking, eating or swallowing. The Reduced Physical Functions RUG-III category is subdivided into 10 subgroups – PE2, PE1, PD2, PD1, PC2, PC1, PB2, PB1, PA2, and PA1.

The differences between these subgroups are the ADL scores and the number of nursing restorative services provided to the client, as presented in Table 8.21.

Table 8.21 ADL Score/Nursing Restorative Services for Sample Clients Classified as Reduced Physical Functions

Nursing Restorative Services	ADL Score	Reduced Physical Functions Classification
2 or more services	16 – 18	PE2
0 or 1 service	16 – 18	PE1
2 or more services	11 – 15	PD2
0 or 1 service	11 –15	PD1
2 or more services	9 – 10	PC2
0 or 1 service	9 – 10	PC1
2 or more services	6 – 8	PB2
0 or 1 service	6 – 8	PB1
2 or more services	4 – 5	PA2
0 or 1 service	4 – 5	PA1

Table 8.22 presents the distribution of clients that classified in the Reduced Physical Functions RUG-III category. There was a fairly even distribution of Reduced Physical Functions clients in CAP/DA, ACH, and ADC services. 2004 All Nursing Facilities, 300 Nursing Facilities Random Sample, and ADH also have a similar distribution of clients in the Reduced Physical Functions category.

Table 8.22 Distribution of Sample Clients Classified as Reduced Physical Functions

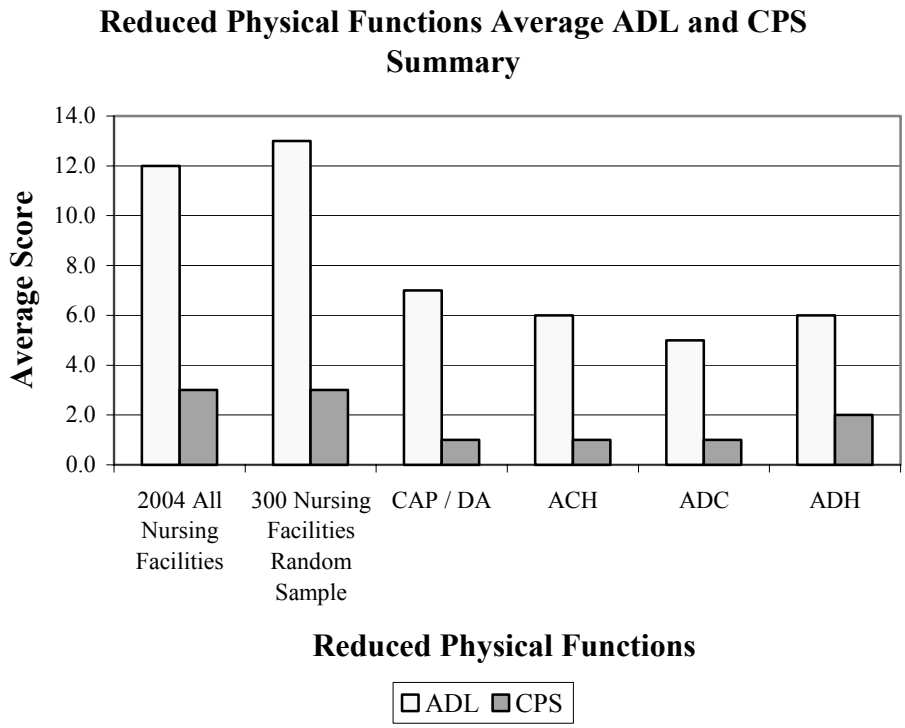
RUG-III Group	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %	No. Clients/ %
PE 1 or 2	2761/7%	31/10%	2/3%	2/1%	0/0%	0/0%
PD 1 or 2	6954/18%	74/25%	5/6%	10/6%	0/0%	1/5%
PC 1 or 2	597/2%	6/2%	6/8%	3/2%	1/5%	0/0%
PB 1 or 2	927/2%	7/2%	11/14%	6/4%	1/5%	1/5%
PA 1 or 2	2105/5%	13/4%	17/21%	65/41%	9/45%	4/20%
Total	**13344/35%**	**131/44%**	**41/51%**	**86/54%**	**11/55%**	**6/30%**

ADL and CPS Comparison

The average ADL and CPS score for clients in this study that classified in the Reduced Physical Functions category are summarized in Table 8.23, and in the graph below. The 2004 All Nursing Facilities and 300 All Nursing Facilities clients have similar average ADL and CPS scores. Likewise, the CAP/DA, ACH, ADC and ADH clients have similar ADL and CPS scores. The nursing facility populations, on average, have moderate ADL needs, and mild to moderate impaired cognition levels, whereas the CAP/DA, ACH, ADC and ADH clients have low to moderate ADL needs, and little to no cognitive impairment.

Table 8.23 Average ADL and CPS Score for Sample Clients Classified as Reduced Physical Functions

	2004 All Nursing Facilities	300 Nursing Facilities Random Sample	CAP/DA	ACH	ADC	ADH
ADL	12	13	7	6	5	6
CPS	3	3	1	1	1	2



Clients with Psychiatric/Mood Diagnosis

Of the 200 clients studied in the ACH, ADC and ADH sample groups, there were 36 clients that classified in the Reduced Physical Functions category and had a psychiatric/mood diagnosis. Thirty-two clients were residents of adult care homes, three clients were receiving adult day care services, and one client was receiving adult day health services. Table 8.24 presents the distribution of clients with a psychiatric/mood diagnosis.

Table 8.24 Reduced Physical Functions Sample Clients with a Psychiatric/Mood Diagnosis

	Number of Clients – Reduced Physical Functions		
Psychiatric/Mood Diagnosis	**Adult Care Home**	**Adult Day Care**	**Adult Day Health**
Anxiety Disorder	4	0	0
Anxiety Disorder and Depression	2	0	0
Depression	9	0	0
Depression and Schizophrenia	1	0	0
Schizophrenia	15	1	0
Manic Depression (Bipolar)	1	2	1
Total	**32**	**3**	**1**

9.0 Other Clinical Findings

While completing client assessments, our clinical staff observed provider operations on a day-to-day basis.

9.1 Summary of Mental Illness and Dementia Diagnoses

In addition to the four (4) psychiatric/mood diagnoses contained on the MDS and addressed in Section 7.0 of this report, Table 9.1 presents additional mental illness and dementia diagnoses that were obtained from client medical records. Of the 200 ACH, ADC and ADH clients for whom assessments were completed, 145 (72.5%) clients had one or more diagnoses of mental illness or other compromising mental conditions, such as dementia.

Table 9.1 Frequency of Mental Illness Diagnosis – ACH, ADC and ADH Sample Clients

Diagnosis	Number of Times Diagnosis Noted
Alzheimer's Disease	25
Anxiety	10
Delusional Disorder	1
Dementia	63
Depression	21
ETOH-Abuse	2
Insomnia	1
Malaise	1
Manic-Depression (Bipolar Disorder)	8
Mental Retardation	10
Mental Status Change	1
Organic Brain Syndrome	1
Personality Disorder	1
Psychosis/Psychotic Disorder	4
Schizo-affective Disorder	1
Schizophrenia	31
Total	**181**

9.2 Unusual Findings of Diagnosis and Associated CPS/ADL

When comparing diagnoses for dementia and/or Alzheimer's disease with associated CPS and ADL scores, the following inconsistent findings were observed:

- There were 12 clients with dementia/Alzheimer's disease reported who had a CPS score of 0 or 1 and an ADL score of 4. A CPS score of 0 or 1 and an ADL score of 4 depicts a client that has intact cognition and little to no care needs. These clients' cognition levels seem inconsistent with a demented client or one with Alzheimer's disease.
- There was one client with dementia/Alzheimer's disease with a CPS score of 1 and ADL score of 6. A CPS score of 1 and an ADL score of 6 depicts a client that has borderline intact cognition and little care needs. The cognition level of this client appears inconsistent with a demented client or one with Alzheimer's disease.
- There are two clients with dementia/Alzheimer's disease with a CPS score of 0 and ADL score of 9. A CPS score of 0 and an ADL score of 9 depicts a client that has intact

cognition and moderate care needs. The cognition level of these clients appears inconsistent with a demented client or one with Alzheimer's disease.

A client with an Alzheimer's disease or other dementia diagnosis is expected to exhibit more cognitive impairment and greater ADL needs due to the cognitive impairment, than the above clients' assessments would suggest. These ADL and CPS scores indicate cognitively intact, yet functionally independent clients.

Cognitive impairment is often the first sign of needs that exceed the safety of self-care in an independent environment. Certainly Alzheimer's disease, in its early stage, is diagnosed due to memory loss and confusion.

9.3 On-site Observations of Client Centers

The ACH, ADC and ADH centers visited ranged from small private homes with four clients to large, multi-service centers, such as facilities providing more than one type of service (such as both adult day care and adult day health, or both nursing facility and adult care home services). Several adult day health and adult day care centers had a nursing facility appearance, and some were a wing or hall of a nursing facility. The physical buildings varied from old and rundown to new and upscale. Furnishings also varied from sparse and inexpensive to nicely decorated.

When questioned, caregivers were well informed and knowledgeable about the clients. Clients were typically found to be clean, neatly dressed and well groomed. Provider staff was pleasant and cooperative with the assessment process. Staff members were knowledgeable and helpful at the majority of facilities, though in a limited number of cases, some provider staff appeared disinterested.

10.0 Public Expenditures Analysis

10.1 Description of Analysis

In order to evaluate public expenditures for the sample clients receiving long-term care services in this study, we obtained from DMA electronic Medicaid claims data for the nursing facility, CAP/DA and adult care home programs for state fiscal year (SFY) 2004. This claims data provides detailed information about the cost of medical care and other services received by each sample client, including the type of service provided and amount paid. The claims are based on provider type, and were grouped into service categories by matching service category descriptions and provider type descriptions. The service category definitions are presented in the appendix. We also obtained from DMA a summary of SFY 2004 Home and Community Care Block Grant expenditure data for the ADC sample clients.

In addition to claims data, DMA also provided client-specific Medicaid eligibility information for each nursing facility, CAP/DA and ACH client for SFY 2004. Based on an analysis of this Medicaid eligibility data, it was confirmed with DMA that one client from the CAP/DA sample was not eligible for Medicaid benefits at any time during SFY 2004. This client was excluded from the public expenditures analysis since the person had no Medicaid claims.

A number of clients in this study were not eligible to receive Medicaid benefits for all time periods during SFY 2004. In order to produce comparable public expenditure amounts for each of the sample clients, it was necessary to adjust, or annualize the expenditures for clients who were not eligible for the entire SFY 2004. This annualization adjustment to account for periods of eligibility less than a full year is described below.

If a sample client was not Medicaid eligible for the entire SFY2004, then the Medicaid expenditures for that client were annualized using the ratio of 366 days (i.e., the number of days during SFY 2004) divided by the number of days the client was Medicaid eligible during SFY 2004. For example, if a client was Medicaid eligible for only the first six months of SFY 2004 (July through December 2003 or 184 days), then for purposes of this analysis, the Medicaid claims for that client were increased by the ratio 366/184 or 2.0 (i.e., six months of claims data were multiplied by two in this example). Table 10.1 summarizes the annualized SFY 2004 public expenditures for each long-term care sample group in this study, and on an average per client basis.

Table 10.1 Summary of SFY 2004 Annualized Public Expenditures by Sample Group

	No. of Sample Clients	Annualized SFY 2004 Expenditures	Simple Average Per Client
Nursing Facilities	300	$11,177,086	$37,257
CAP/DA	79	$1,892,666	$23,958
ACH	160	$1,947,370	$12,171
ADC	20	$60,116	$3,006
ADH *	--	--	--
All Sample Clients	**559**	**$15,077,238**	**$26,972**

Each of the sample clients was grouped into distinct RUG-III classifications, so the public expenditures of clients with similar care and service needs could be analyzed and compared. Once the public expenditures and RUG-III classification for each sample client were determined, we then compared the average per client cost across the different long-term care settings of care. Table 10.2 summarizes the average per client cost for each care setting, by each major RUG-III group.

Table 10.2 Average Public Expenditures per Sample Client

RUG-III Group	300 Nursing Facilities	CAP/DA	ACH	ADC	ADH *
Extensive Services	$34,743	$16,488	--	--	--
Rehabilitation	$39,113	--	--	--	--
Special Care	$36,874	$6,918	$21,599	--	--
Clinically Complex	$40,198	$28,150	$16,576	--	--
Impaired Cognition	$35,022	$25,730	$11,439	$2,344	--
Behavior Problems	--	$7,836	$9,282	--	--
Reduced Physical Function	$36,584	$23,931	$11,781	$3,547	--

The appendix to this report contains more detailed tables for each of the long-term care service settings, which summarize the public expenditures data obtained from DMA. The public expenditures data is presented for SFY 2004 and is broken down by RUG-III group.

* Note: The ADH expenditures data are still being compiled by DMA at the time of publication of this report. This information will be presented as an addendum to this report at a later date.

11.0 Appendix

A Map of Adult Care Home Site Visits

B Map of Adult Day Care Site Visits

C Map of Adult Day Health Site Visits

D RUG-III Distribution of Sample Clients

E-1 Summary of Medicaid Expenditures – Nursing Facility

E-2 Average Medicaid Expenditures Per RUG-III Category – Nursing Facility

F-1 Summary of Medicaid Expenditures – CAP/DA

F-2 Average Medicaid Expenditures Per RUG-III Category – CAP/DA

G-1 Summary of Medicaid Expenditures – Adult Care Home

G-2 Average Medicaid Expenditures Per RUG-III Category – Adult Care Home

H-1 Summary of HCCBG Expenditures – Adult Day Care

H-2 Average HCCBG Expenditures Per RUG-III Category – Adult Day Care

I-1 Summary of Medicaid Expenditures – Adult Day Health

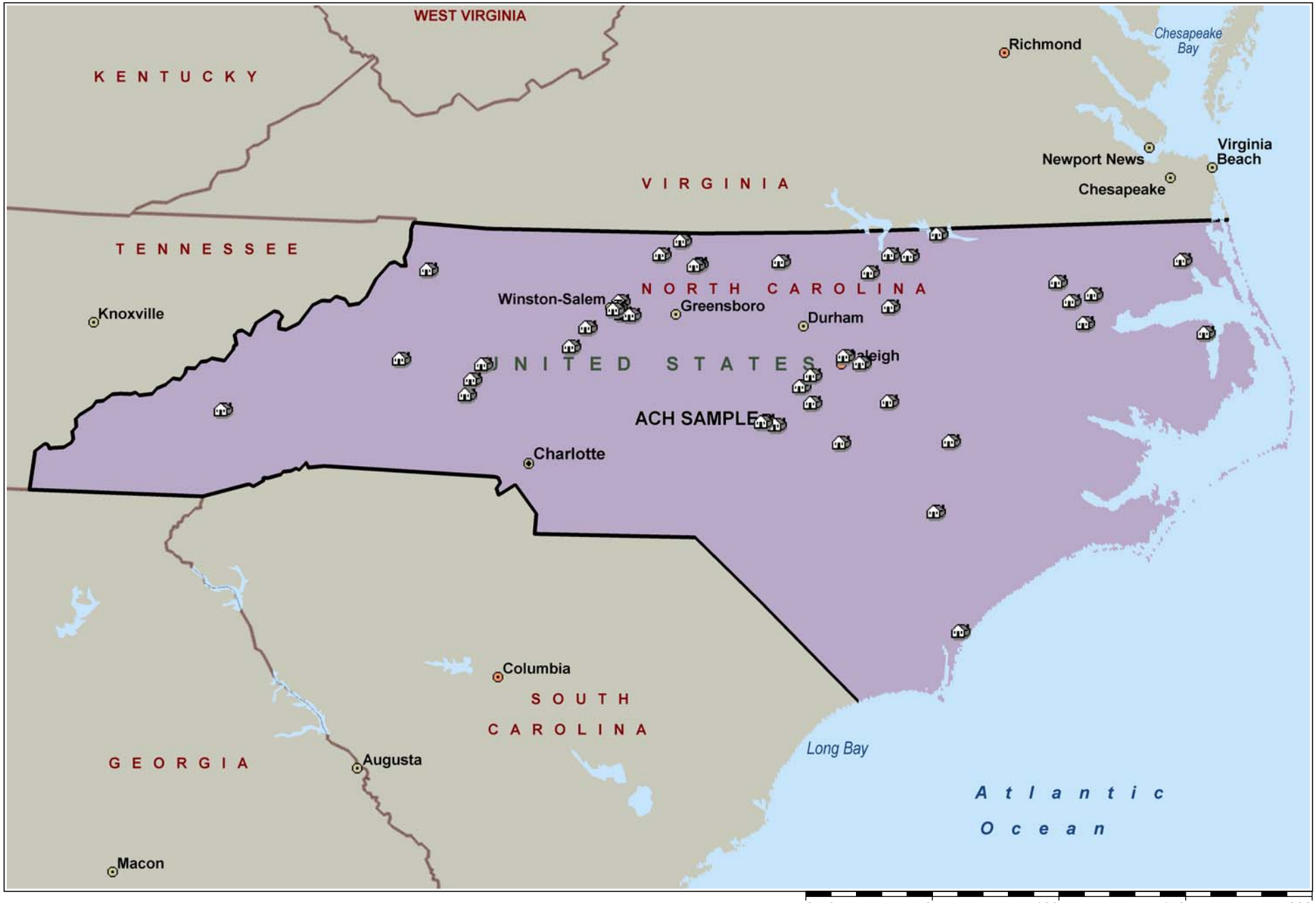
I-2 Average Medicaid Expenditures Per RUG-Category – Adult Day Health

J Average Public Expenditures – All Long Term Care Groups

K Service Category Definitions

ADULT CARE HOME LOCATIONS

APPENDIX A



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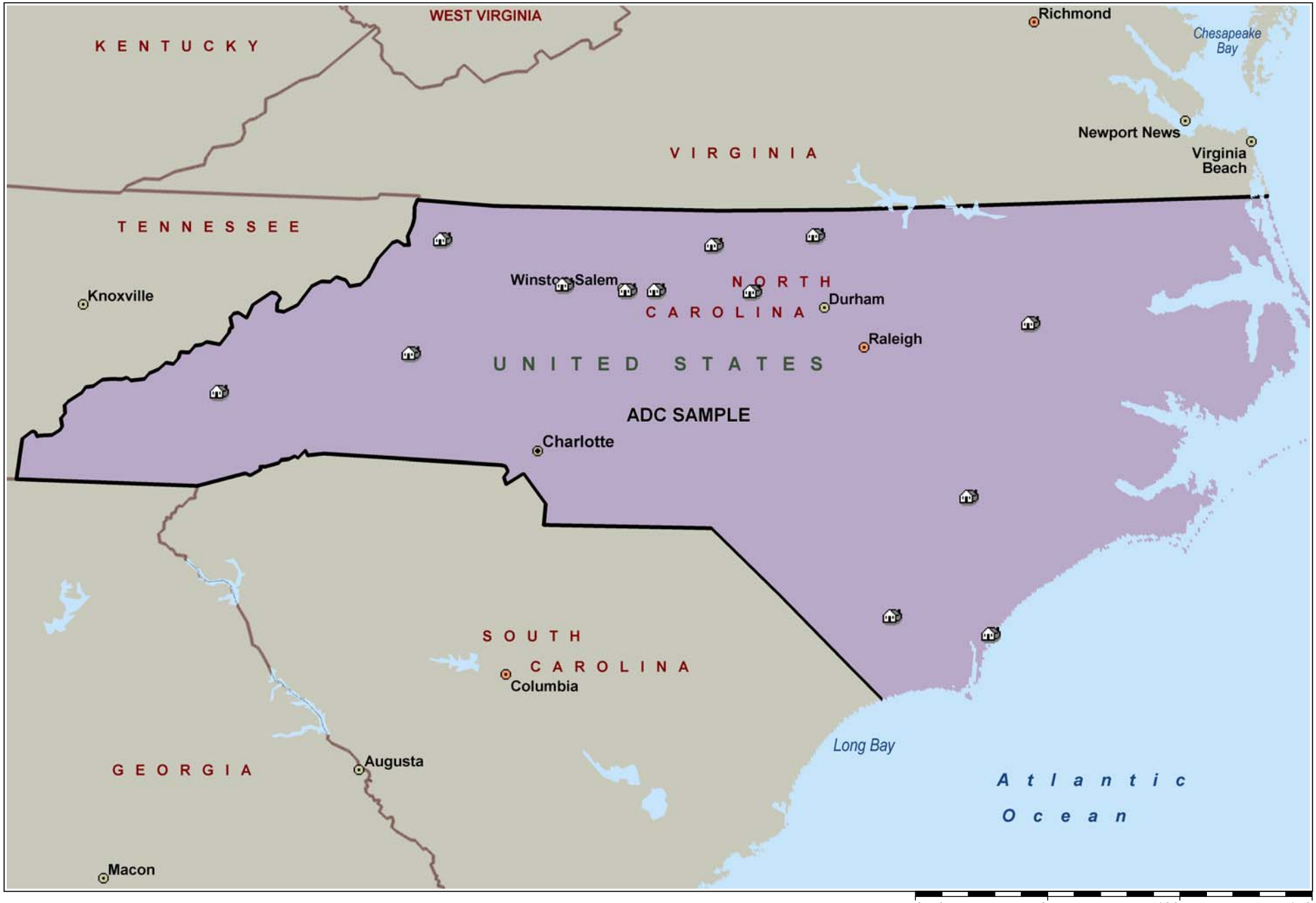
ADULT DAY CARE LOCATIONS

APPENDIX B



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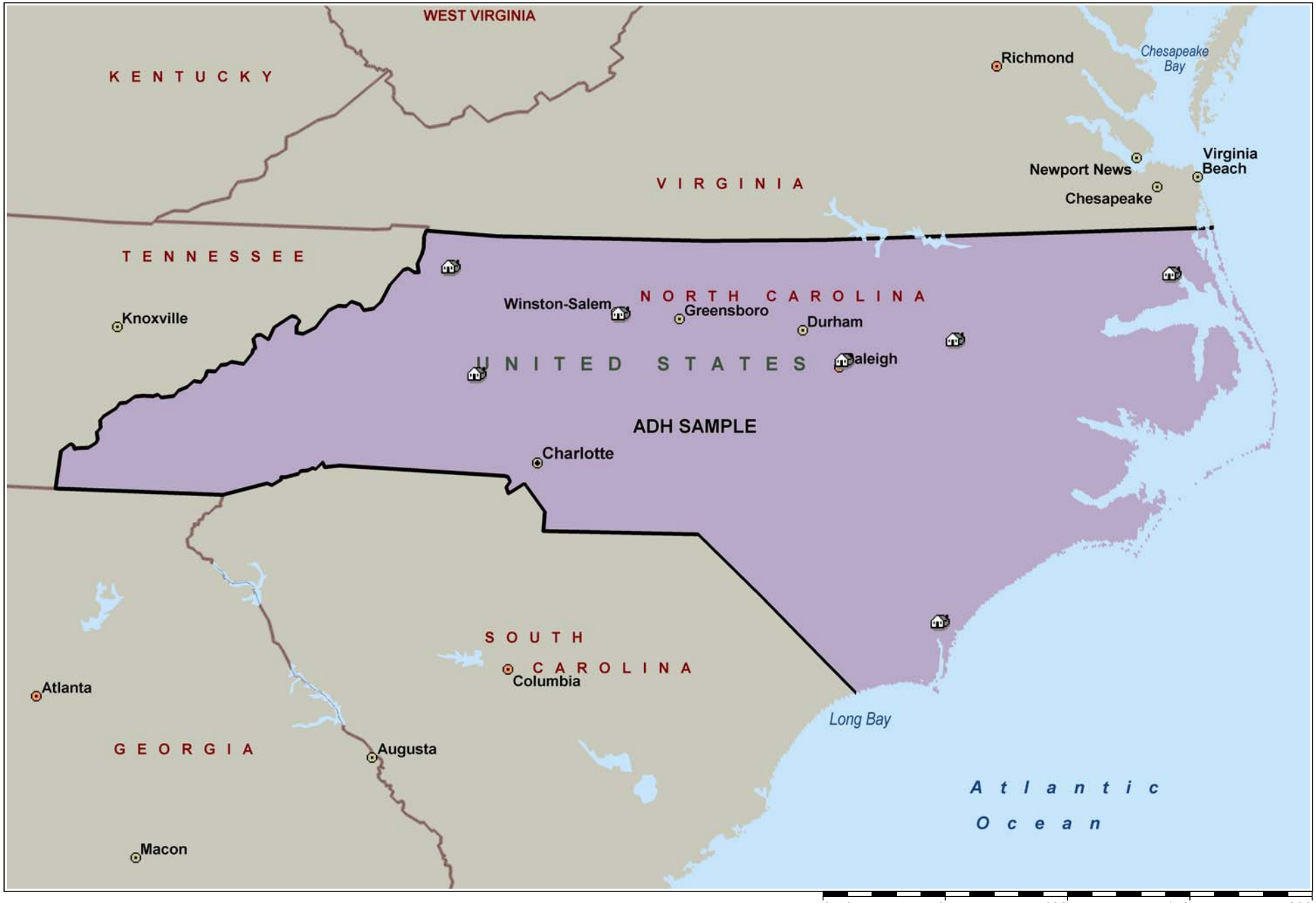
ADULT DAY HEALTH LOCATIONS

APPENDIX C



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RUG-III Distribution of Sample Clients Included in Public Expenditures Analysis

Appendix D

RUG-III Group	Number of Clients				
	Nursing Facility	CAP / DA	Adult Care Home	Adult Day Care	Adult Day Health
SE3	2	0	0	0	0
SE2	6	1	0	0	0
SE1	1	1	0	0	0
Extensive Services	**9**	**2**	**0**	**0**	**0**
RAD	3	0	0	0	0
RAC	4	0	0	0	0
RAB	1	0	0	0	0
RAA	1	0	0	0	0
Rehabilitation	9	0	0	0	0
SSC	7	0	0	0	0
SSB	9	1	2	0	0
SSA	13	1	2	0	0
Special Care	**29**	**2**	**4**	**0**	**0**
CC2	0	0	0	0	0
CC1	3	1	0	0	0
CB2	6	2	0	0	0
CB1	36	5	1	0	0
CA2	6	0	1	0	0
CA1	22	10	8	0	0
Clinically Complex	**73**	**18**	**10**	**0**	**0**
IB2	4	1	0	0	0
IB1	28	9	31	3	2
IA2	0	0	0	0	0
IA1	17	3	27	6	2
Impaired Cognition	**49**	**13**	**58**	**9**	**4**
BB2	0	0	0	0	0
BB1	0	2	0	0	0
BA2	0	0	0	0	0
BA1	0	1	2	0	0
Behavior Problems	**0**	**3**	**2**	**0**	**0**
PE2	1	1	0	0	0
PE1	30	1	2	0	0
PD2	7	1	0	0	0
PD1	67	4	10	0	0
PC2	1	0	0	0	0
PC1	5	6	3	1	0
PB2	0	0	0	0	0
PB1	7	10	6	1	1
PA2	1	1	0	0	0
PA1	12	17	65	9	3
Reduced Physical Function	**131**	**41**	**86**	**11**	**4**
Total -- All RUG-III Groups	**300**	**79**	**160**	**20**	**8**

Summary of Medicaid Expenditures -- Nursing Facility

Appendix E-1

	Nursing Facility (300 Clients)			
Service Category	Total SFY 2004 Expenditures	Avg. Per Client	Total Annualized Expenditures	Avg. Per Client
Pharmacy	$1,431,293.66	$4,770.98	$1,444,932.56	$4,816.44
Mental Hospital/Mental Health Center	6,846.14	22.82	6,846.14	22.82
Nursing Facilities	9,374,919.15	31,249.73	9,522,392.15	31,741.31
Hospital	49,543.03	165.14	49,837.03	166.12
CAP Provider Services	12.57	0.04	12.57	0.04
Adult Care Home - Personal Care Services	2,050.08	6.83	2,050.08	6.83
Home Health Agency	-	-	-	-
Home Health - Personal Care Services	-	-	-	-
Prosthetics, DME, CORF	1,161.39	3.87	1,161.39	3.87
Lab/X-Ray	598.83	2.00	635.95	2.12
Physician Services	68,100.95	227.00	68,634.30	228.78
Dental	27,841.11	92.80	28,138.96	93.80
All Other Services	52,319.75	174.40	52,445.23	174.82
Total Medicaid Paid Claims	$11,014,686.66	$36,715.62	$11,177,086.36	$37,256.95

Average Medicaid Expenditures by RUG-III Category

	Nursing Facility				
RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client	Total Annualized Expenditures	Avg Per Client
SE3	$74,330.85	2	$37,165.43	$74,330.85	$37,165.43
SE2	233,329.09	6	38,888.18	233,329.09	38,888.18
SE1	5,027.83	1	5,027.83	5,027.83	5,027.83
Extensive Services	**$312,687.77**	**9**	**$34,743.09**	**$312,687.77**	**$34,743.09**
RAD	$125,883.18	3	$41,961.06	$125,883.18	$41,961.06
RAC	136,171.94	4	34,042.99	152,357.41	38,089.35
RAB	42,086.72	1	42,086.72	42,086.72	42,086.72
RAA	31,689.18	1	31,689.18	31,689.18	31,689.18
Rehabilitation	**$335,831.02**	**9**	**$37,314.56**	**$352,016.49**	**$39,112.94**
SSC	$238,873.44	7	$34,124.78	$238,873.44	$34,124.78
SSB	354,247.80	9	39,360.87	359,127.17	39,903.02
SSA	471,355.68	13	36,258.13	471,355.68	36,258.13
Special Care	**$1,064,476.92**	**29**	**$36,706.10**	**$1,069,356.29**	**$36,874.35**
CC2	$0.00	0	$0.00	$0.00	$0.00
CC1	100,108.20	3	33,369.40	100,108.20	33,369.40
CB2	249,400.13	6	41,566.69	249,400.13	41,566.69
CB1	1,391,751.96	36	38,659.78	1,391,751.96	38,659.78
CA2	234,512.93	6	39,085.49	234,512.93	39,085.49
CA1	955,177.32	22	43,417.15	958,699.81	43,577.26
Clinically Complex	**$2,930,950.54**	**73**	**$40,150.01**	**$2,934,473.03**	**$40,198.26**
IB2	$137,226.60	4	$34,306.65	$137,226.60	$34,306.65
IB1	874,674.84	28	31,238.39	937,947.98	33,498.14
IA2	-	0	-	-	-
IA1	640,882.57	17	37,698.97	640,882.57	37,698.97
Impaired Cognition	**$1,652,784.01**	**49**	**$33,730.29**	**$1,716,057.15**	**$35,021.57**
BB2	$0.00	0	$0.00	$0.00	$0.00
BB1	-	0	-	-	-
BA2	-	0	-	-	-
BA1	-	0	-	-	-
Behavior Problems	**$0.00**	**0**	**$0.00**	**$0.00**	**$0.00**
PE2	$25,267.87	1	$25,267.87	$25,267.87	$25,267.87
PE1	1,158,134.94	30	38,604.50	1,158,134.94	38,604.50
PD2	238,618.91	7	34,088.42	238,618.91	34,088.42
PD1	2,325,184.29	67	34,704.24	2,353,800.02	35,131.34
PC2	30,528.67	1	30,528.67	30,528.67	30,528.67
PC1	138,028.50	5	27,605.70	161,991.00	32,398.20
PB2	-	0	-	-	-
PB1	286,437.96	7	40,919.71	286,437.96	40,919.71
PA2	47,285.75	1	47,285.75	47,285.75	47,285.75
PA1	468,469.51	12	39,039.13	490,430.50	40,869.21
Reduced Physical Function	**$4,717,956.40**	**131**	**$36,014.93**	**$4,792,495.63**	**$36,583.94**
Total -- All RUG-III Groups	**$11,014,686.66**	**300**	**$36,715.62**	**$11,177,086.36**	**$37,256.95**

Summary of Medicaid Expenditures -- CAP/DA

Appendix F-1

Service Category	CAP/DA (79 Clients) Total SFY 2004 Expenditures	Avg. Per Client	Total Annualized Expenditures	Avg. Per Client
Pharmacy	$327,319.38	$4,143.28	$328,742.29	$4,161.29
Mental Hospital/Mental Health Center	95.73	1.21	95.73	$1.21
Nursing Facilities	40,974.68	518.67	43,992.77	$556.87
Hospital	52,261.03	661.53	52,493.89	$664.48
CAP Provider Services	1,225,908.36	15,517.83	1,231,181.06	$15,584.57
Adult Care Home - Personal Care Services	2,697.56	34.15	2,697.56	$34.15
Home Health Agency	49,395.31	625.26	49,543.86	$627.14
Home Health - Personal Care Services	130,417.09	1,650.85	130,462.85	$1,651.43
Prosthetics, DME, CORF	11,268.36	142.64	11,304.80	$143.10
Lab/X-Ray	186.49	2.36	186.49	$2.36
Physician Services	30,524.85	386.39	31,076.84	$393.38
Dental	4,923.35	62.32	4,923.35	$62.32
All Other Services	5,859.63	74.17	5,964.70	$75.50
Total Medicaid Paid Claims	$1,881,831.82	$23,820.66	$1,892,666.19	$23,957.80

Average Medicaid Expenditures by RUG-III Category

	CAP / DA				
RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client	Total Annualized Expenditures	Avg Per Client
SE3	$0.00	0	$0.00	$0.00	$0.00
SE2	1,436.70	1	1,436.70	1,436.70	1,436.70
SE1	31,538.58	1	31,538.58	31,538.58	31,538.58
Extensive Services	**$32,975.28**	**2**	**$16,487.64**	**$32,975.28**	**$16,487.64**
RAD	$0.00	0	$0.00	$0.00	$0.00
RAC	-	0	-	-	-
RAB	-	0	-	-	-
RAA	-	0	0.00	0.00	-
Rehabilitation	**$0.00**	**0**	**$0.00**	**$0.00**	**$0.00**
SSC	$0.00	0	$0.00	$0.00	$0.00
SSB	6,084.25	1	6,084.25	6,084.25	6,084.25
SSA	7,752.01	1	7,752.01	7,752.01	7,752.01
Special Care	**$13,836.26**	**2**	**$6,918.13**	**$13,836.26**	**$6,918.13**
CC2	$0.00	0	$0.00	$0.00	$0.00
CC1	34,380.54	1	34,380.54	34,380.54	34,380.54
CB2	72,419.27	2	36,209.63	75,176.82	37,588.41
CB1	168,618.01	5	33,723.60	168,618.01	33,723.60
CA2	-	0	-	-	-
CA1	226,626.38	10	22,662.64	228,530.33	22,853.03
Clinically Complex	**$502,044.20**	**18**	**$27,891.34**	**$506,705.70**	**$28,150.32**
IB2	$30,779.68	1	$30,779.68	$30,779.68	$30,779.68
IB1	233,116.15	9	25,901.79	233,116.15	25,901.79
IA2	-	0	-	-	-
IA1	70,587.79	3	23,529.26	70,587.79	23,529.26
Impaired Cognition	**$334,483.62**	**13**	**$25,729.51**	**$334,483.62**	**$25,729.51**
BB2	$0.00	0	$0.00	-	$0.00
BB1	18,590.24	2	9,295.12	18,590.24	9,295.12
BA2	-	0	-	-	-
BA1	4,916.56	1	4,916.56	4,916.56	4,916.56
Behavior Problems	**$23,506.80**	**3**	**$7,835.60**	**$23,506.80**	**$7,835.60**
PE2	$25,574.17	1	$25,574.17	$25,574.17	$25,574.17
PE1	29,545.75	1	29,545.75	29,545.75	29,545.75
PD2	30,580.69	1	30,580.69	30,580.69	30,580.69
PD1	99,864.09	4	24,966.02	99,864.09	24,966.02
PC2	-	0	-	-	-
PC1	169,181.00	6	28,196.83	169,181.00	28,196.83
PB2	-	0	-	-	-
PB1	196,681.90	10	19,668.19	202,854.78	20,285.48
PA2	35,030.29	1	35,030.29	35,030.29	35,030.29
PA1	388,527.77	17	22,854.57	388,527.77	22,854.57
Reduced Physical Function	**$974,985.66**	**41**	**$23,780.14**	**$981,158.54**	**$23,930.70**
Total -- All RUG-III Groups	**$1,881,831.82**	**79**	**$23,820.66**	**$1,892,666.20**	**$23,957.80**

Summary of Medicaid Expenditures -- Adult Care Home

Appendix G-1

	Adult Care Home (160 clients)			
Service Category	Total SFY 2004 Expenditures	Avg. Per Client	Total Annualized Expenditures	Avg. Per Client
Pharmacy	$646,051.71	$4,037.82	$648,517.84	$4,053.24
Mental Hospital/Mental Health Center	34,067.16	212.92	34,067.16	212.92
Nursing Facilities	48,811.83	305.07	48,811.83	305.07
Hospital	32,183.58	201.15	32,206.33	201.29
CAP Provider Services	1,984.84	12.41	1,984.84	12.41
Adult Care Home - Personal Care Services	1,028,283.95	6,426.77	1,037,685.40	6,485.53
Home Health Agency	64,320.53	402.00	64,320.53	402.00
Home Health - Personal Care Services	-	-	-	-
Prosthetics, DME, CORF	11,679.40	73.00	11,715.76	73.22
Lab/X-Ray	819.83	5.12	819.83	5.12
Physician Services	39,498.87	246.87	39,660.47	247.88
Dental	11,709.59	73.18	11,709.59	73.18
All Other Services	15,834.67	98.97	15,869.89	99.19
Total Medicaid Paid Claims	$1,935,245.96	$12,095.29	$1,947,369.47	$12,171.06

Average Medicaid Expenditures by RUG-III Category

	Adult Care Home				
RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client	Total Annualized Expenditures	Avg Per Client
SE3	$0.00	0	$0.00	$0.00	$0.00
SE2	-	0	-	-	-
SE1	-	0	-	-	-
Extensive Services	**$0.00**	**0**	**$0.00**	**$0.00**	**$0.00**
RAD	$0.00	0	$0.00	$0.00	$0.00
RAC	-	0	-	-	-
RAB	-	0	-	-	-
RAA	-	0	-	-	-
Rehabilitation	**$0.00**	**0**	**$0.00**	**$0.00**	**$0.00**
SSC	$0.00	0	$0.00	$0.00	$0.00
SSB	41,242.07	2	20,621.04	41,242.07	20,621.04
SSA	45,152.58	2	22,576.29	45,152.58	22,576.29
Special Care	**$86,394.65**	**4**	**$21,598.66**	**$86,394.65**	**$21,598.66**
CC2	$0.00	0	$0.00	$0.00	$0.00
CC1	-	0	-	-	-
CB2	-	0	-	-	-
CB1	14,880.92	1	14,880.92	14,880.92	14,880.92
CA2	13,932.37	1	13,932.37	13,932.37	13,932.37
CA1	136,950.68	8	17,118.84	136,950.68	17,118.84
Clinically Complex	**$165,763.97**	**10**	**$16,576.40**	**$165,763.97**	**$16,576.40**
IB2	$0.00	0	$0.00	$0.00	$0.00
IB1	352,632.21	31	11,375.23	352,632.21	11,375.23
IA2	-	0	-	-	-
IA1	307,089.17	27	11,373.67	310,827.50	11,512.13
Impaired Cognition	**$659,721.38**	**58**	**$11,374.51**	**$663,459.71**	**$11,438.96**
BB2	$0.00	0	$0.00	$0.00	$0.00
BB1	-	0	-	-	-
BA2	-	0	-	-	-
BA1	18,563.36	2	9,281.68	18,563.36	9,281.68
Behavior Problems	**$18,563.36**	**2**	**$9,281.68**	**$18,563.36**	**$9,281.68**
PE2	$0.00	0	0.00	0.00	0.00
PE1	31,334.50	2	15,667.25	31,334.50	15,667.25
PD2	-	0	-	-	-
PD1	148,564.88	10	14,856.49	148,564.88	14,856.49
PC2	-	0	-	-	-
PC1	44,523.53	3	14,841.18	44,523.53	14,841.18
PB2	-	0	-	-	-
PB1	79,281.55	6	13,213.59	79,281.55	13,213.59
PA2	-	0	-	-	-
PA1	701,098.14	65	10,786.13	709,483.32	10,915.13
Reduced Physical Function	**$1,004,802.60**	**86**	**$11,683.75**	**$1,013,187.78**	**$11,781.25**
Total -- All RUG-III Groups	**$1,935,245.96**	**160**	**$12,095.29**	**$1,947,369.47**	**$12,171.06**

Summary of HCCBG Expenditures -- Adult Day Care

Appendix H-1

Service Category	Adult Day Care (20 Clients) Total Expenditures	Avg. Per Client
Total Home and Community Care Block Grant Paid Claims	$60,116.00	$3,005.80

Average Medicaid Expenditures by RUG-III Category

	Adult Day Care		
RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client
SE3	$0.00	0	$0.00
SE2	-	0	-
SE1	-	0	-
Extensive Services	**$0.00**	**0**	**$0.00**
RAD	$0.00	0	$0.00
RAC	-	0	-
RAB	-	0	-
RAA	-	0	-
Rehabilitation	**$0.00**	**0**	**$0.00**
SSC	$0.00	0	$0.00
SSB	-	0	-
SSA	-	0	-
Special Care	**$0.00**	**0**	**$0.00**
CC2	$0.00	0	$0.00
CC1	-	0	-
CB2	-	0	-
CB1	-	0	-
CA2	-	0	-
CA1	-	0	-
Clinically Complex	**$0.00**	**0**	**$0.00**
IB2	$0.00	0	$0.00
IB1	4,916.00	3	1,638.67
IA2	-	0	-
IA1	16,182.00	6	2,697.00
Impaired Cognition	**$21,098.00**	**9**	**$2,344.22**
BB2	$0.00	0	$0.00
BB1	-	0	-
BA2	-	0	-
BA1	-	0	-
Behavior Problems	**$0.00**	**0**	**$0.00**
PE2	$0.00	0	$0.00
PE1	-	0	-
PD2	-	0	-
PD1	-	0	-
PC2	-	0	-
PC1	646.00	1	646.00
PB2	-	0	-
PB1	7,933.00	1	7,933.00
PA2	-	0	-
PA1	30,439.00	9	$ 3,382.11
Reduced Physical Function	**$39,018.00**	**11**	**$3,547.09**
Total -- All RUG-III Groups	**$60,116.00**	**20**	**$3,005.80**

Summary of Medicaid Expenditures -- Adult Day Health *

Appendix I-1

Service Category	Adult Day Health (8 Clients) Total Costs	Avg. Per Client
Pharmacy	$0.00	$0.00
Mental Hospital/Mental Health Center	-	-
Nursing Facilities	-	-
Hospital	-	-
CAP Provider Services	-	-
Adult Care Home - Personal Care Services	-	-
Home Health Agency	-	-
Home Health - Personal Care Services	-	-
Prosthetics, DME, CORF	-	-
Lab/X-Ray	-	-
Physician Services	-	-
Dental	-	-
All Other Services	-	-
Total Medicaid Paid Claims	$0.00	$0.00

* Note: The ADH expenditures data are still being compiled by DMA at the time of publication of this report. This information will be presented as an addendum to this report at a later date.

Average Medicaid Expenditures by RUG-III Category

	Adult Day Health *		
RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client
SE3	$0.00	0	$0.00
SE2	-	0	-
SE1	-	0	-
Extensive Services	**$0.00**	**0**	**$0.00**
RAD	$0.00	0	$0.00
RAC	-	0	-
RAB	-	0	-
RAA	-	0	-
Rehabilitation	**$0.00**	**0**	**$0.00**
SSC	$0.00	0	$0.00
SSB	-	0	-
SSA	-	0	-
Special Care	**$0.00**	**0**	**$0.00**
CC2	$0.00	0	$0.00
CC1	-	0	-
CB2	-	0	-
CB1	-	0	-
CA2	-	0	-
CA1	-	0	-
Clinically Complex	**$0.00**	**0**	**$0.00**
IB2	$0.00	0	$0.00
IB1	-	0	-
IA2	-	0	-
IA1	-	0	-
Impaired Cognition	**$0.00**	**0**	**$0.00**
BB2	$0.00	0	$0.00
BB1	-	0	-
BA2	-	0	-
BA1	-	0	-
Behavior Problems	**$0.00**	**0**	**$0.00**
PE2	$0.00	0	$0.00
PE1	-	0	-
PD2	-	0	-
PD1	-	0	-
PC2	-	0	-
PC1	-	0	-
PB2	-	0	-
PB1	-	0	-
PA2	-	0	-
PA1	-	0	-
Reduced Physical Function	**$0.00**	**0**	**$0.00**
Total -- All RUG-III Groups	**$0.00**	**0**	**$0.00**

* Note: The ADH expenditures data are still being compiled by DMA at the time of publication of this report. This information will be presented as an addendum to this report at a later date.

Average Medicaid Expenditures by RUG-III Category

Appendix J

Total -- Nursing Facility, Adult Care Home, CAP/DA and Adult Day Care Clients

RUG-III Group	Total SFY 2004 Expenditures	No. of Clients	Avg Per Client	Total Annualized Expenditures	Avg Per Client
SE3	$74,330.85	2	$37,165.43	$74,330.85	$37,165.43
SE2	234,765.79	7	33,537.97	234,765.79	33,537.97
SE1	36,566.41	2	18,283.21	36,566.41	18,283.21
Extensive Services	**$345,663.05**	**11**	**$31,423.91**	**$345,663.05**	**$31,423.91**
RAD	$125,883.18	3	$41,961.06	$125,883.18	$41,961.06
RAC	136,171.94	4	34,042.99	152,357.41	38,089.35
RAB	42,086.72	1	42,086.72	42,086.72	42,086.72
RAA	31,689.18	1	31,689.18	31,689.18	31,689.18
Rehabilitation	**$335,831.02**	**9**	**$37,314.56**	**$352,016.49**	**$39,112.94**
SSC	$238,873.44	7	$34,124.78	$238,873.44	$34,124.78
SSB	401,574.12	12	33,464.51	406,453.49	33,871.12
SSA	524,260.27	16	32,766.27	524,260.27	32,766.27
Special Care	**$1,164,707.83**	**35**	**$33,277.37**	**$1,169,587.20**	**$33,416.78**
CC2	$0.00	0	$0.00	$0.00	$0.00
CC1	134,488.74	4	33,622.18	134,488.74	33,622.18
CB2	321,819.40	8	40,227.43	324,576.95	40,572.12
CB1	1,575,250.89	42	37,505.97	1,575,250.89	37,505.97
CA2	248,445.30	7	35,492.19	248,445.30	35,492.19
CA1	1,318,754.38	40	32,968.86	1,324,180.82	33,104.52
Clinically Complex	**$3,598,758.71**	**101**	**$35,631.27**	**$3,606,942.70**	**$35,712.30**
IB2	$168,006.28	5	$33,601.26	$168,006.28	$33,601.26
IB1	1,465,339.20	71	20,638.58	1,528,612.34	21,529.75
IA2	-	0	-	-	-
IA1	1,034,741.53	53	19,523.43	1,038,479.86	19,593.96
Impaired Cognition	**$2,668,087.01**	**129**	**$20,682.85**	**$2,735,098.48**	**$21,202.31**
BB2	$0.00	0	$0.00	$0.00	$0.00
BB1	18,590.24	2	9,295.12	18,590.24	9,295.12
BA2	-	0	-	-	-
BA1	23,479.92	3	7,826.64	23,479.92	7,826.64
Behavior Problems	**$42,070.16**	**5**	**$8,414.03**	**$42,070.16**	**$8,414.03**
PE2	$50,842.04	2	$25,421.02	$50,842.04	$25,421.02
PE1	1,219,015.19	33	36,939.85	1,219,015.19	36,939.85
PD2	269,199.60	8	33,649.95	269,199.60	33,649.95
PD1	2,573,613.26	81	31,773.00	2,602,228.99	32,126.28
PC2	30,528.67	1	30,528.67	30,528.67	30,528.67
PC1	352,379.03	15	23,491.94	376,341.53	25,089.44
PB2	-	0	-	-	-
PB1	570,334.41	24	23,763.93	576,507.29	24,021.14
PA2	82,316.04	2	41,158.02	82,316.04	41,158.02
PA1	1,588,534.42	103	15,422.66	1,618,880.60	15,717.29
Reduced Physical Function	**$6,736,762.66**	**269**	**$25,043.73**	**$6,825,859.95**	**$25,374.94**
Total -- All RUG-III Groups	**$ 14,891,880.44**	**559**	**$26,640.22**	**$15,077,238.03**	**$26,971.80**

Service Category Definitions Appendix K

Service Category	Provider Type Code	Provider Types Description
Pharmacy	026	Pharmacy - In State
	092	Pharmacy - Out of State
Mental Hospital/Mental Health Center	064	Mental Hospital - State Owned
	074	Mental Health Center
	102	Access II - Enhanced Care
	103	Access II - Community Care
Nursing Facilities	007	Indian Nursing Facility
	047	ICF General
	050	ICF - State Owned
	080	SNF - General
	081	SNF - State Owned
Hospital	060	Hospital - General
	090	Out of State Hospital
	104	Critical Access Hospital
CAP Provider Services	082	CAP (Community Alternatives Program)
	099	Case Management DSS
Adult Care Home - Personal Care Services	009	Adult Care Home
Home Health Agency	044	Home Health Agency
Home Health - Personal Care Services	011	Personal Care
Prosthetics, DME, CORF	016	Prosthetics, DME, CORF (Out of State)
	034	Prosthetics, DME, CORF
Lab/X-Ray	043	Independent Laboratory
	073	Out of State Laboratory
	097	Xray and Ultrasound Portable
Physician Services	020	Individual Physician
	022	Physician Group
	032	Podiatry
	033	FQHC
	052	PDC/MDC (clinic)
	067	Rural Health Center
	085	Nurse Practitioner
	089	Podiatry
Dental	024	Dental Group
	027	Individual Dentist
All Other Services	028	Individual Optometrist
	029	Ambulatory Surgical Center
	042	Ambulance
	053	Hospice
	055	Health Check Other
	061	ER Physician
	075	Optical Supplies
	076	Dialysis Treatment Center
	087	Optometry